TOWARDS A FRAMEWORK FOR ASSESSING SETTLEMENT PATTERNS AND TRENDS IN SOUTH AFRICA TO GUIDE SUSTAINABLE SETTLEMENT DEVELOPMENT PLANNING. A CASE STUDY OF KWAZULU NATAL PROVINCE

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ABSTRACT

This study presents a framework for assessing settlement patterns and trends to guide sustainable settlement development planning in South Africa. The rationale for the study is the persistence of multi-faceted interrelated, settlement challenges. At the beginning of the post-apartheid period in 1994, the new democratic government in South Africa adopted progressive policies to promote sustainable human settlements that integrate the various facets of human activity such as transportation, housing and socio-economic facilities. However, unsustainable and inefficient patterns of apartheid era planning persist more than 15 years into the post-apartheid settlements. Compounding this situation are new, unsustainable emerging trends such as the peripheral location of mono-functional low income housing developments in cities.

This study argues that the main reason for the persistence of settlement challenges is the absence of comprehensive frameworks for the formulation of sustainable development plans that are informed by substantive theory, best practice and also the dialectical relationship among various settlement facets. It therefore develops a new framework and model for assessing settlement patterns and trends to guide sustainable development plans. The operational method is informed by a new synthetic theory of settlement patterns and trends, application of the theory to international and local patterns of policies and dynamics, empirical synthetic techniques for assessing settlement patterns and trends including the deductive formulation of sustainable development plans in localities, based on these interrelated components of the framework and model.

Empirical synthetic techniques for the practical assessment of settlement patterns and trends are based on the translation of key theories and concepts of the synthetic theory into measurables. The synthetic empirical techniques use EThekwini Municipality in KwaZulu Natal province, South Africa as the case study since the municipality contains settlement typologies and systems that are typical of the province.

The analysis of EThekwini Metropolitan Municipality revealed that prevailing settlement patterns and trends are not sustainable. On the other hand the municipality‟s development plans are not responsive to the heterogeneous socio-economic characteristics of the population in different settlement typologies including Local Economic Development (LED) potentials in the nodes in different functional regions of the municipality. On these grounds, the research study proposes alternative sustainable settlement development plans for EThekwini Municipality. The thesis recommends a dialectical deductive formulation of development plans based on the new framework of assessing settlement patterns and trends developed by this research. As such socio-economic

investment priorities must be informed by the potential of economic growth in different town centres and functional regions all the same being responsive to social, economic and physical characteristics of the population. Pro-growth and pro-poor LED strategies should also be adopted, depending on the nature and extent of heterogeneity in the factors of production in the different town centres and settlement typologies they serve. Therefore, sustainable development plans can be achieved in South Africa if this new framework and model is adopted to guide future settlement patterns and trends.

DECLARATION

I declare that unless otherwise acknowledged in the text, this thesis is my own original unaided work, and has not been submitted in whole or part, to any other university.

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Supervisor: Professor Ambrose A. Adebayo

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List of Abbreviations and Acronyms

AD	Anno Domini (Before Christ)
ADA	Argumentative Discourse Analysis
AdW	Akademie der Wissenschaften
AIDS	Acquired Immuno Deficiency Syndrome
ANC	African National Congress
ASGI-SA	Accelerated and Shared Growth Initiative
ASSA	Actuarial Society of South Africa
ATM	Automatic Teller Machine
BC	Before Christ
BCE	Before the Christian Era
BNG	Department of Housing Republic of South Africa Breaking New Ground Housing Policy
CA	Comparative Advantage
CAA	Catchment Area Analysis
CAD	Computer Aided Design
CAM	Computer Aided Manufacturing
CBD	Central Business District
CBOs	Community Based Organizations
CBS	Dutch Central Bureau of Statistics
CDCs	Community Development Corporations
CIAM	Congress International de „Architecture Moderne“
CSIR	Centre for Scientific and Industrial Research
CU	Counterurbanization
CURDS	Centre for Urban & Regional Development Studies
DA	Democratic Alliance
DoH	Department of Housing Republic of South Africa

EA	Enumeration Area
EDZs	Enterprise Development Zones
EU	European Union
ESAP	Economic Structural Adjustment Programmes
ESTA	Extension of Security of Tenure Act
FDI	Foreign Direct Investment
FEZ	Free Economic Zones
FGDs	Focus Group Discussions
FR	Functional Region
GEAR	Growth Employment and Redistribution
GIS	Geographic Information Systems
GNDP	Gross National Domestic Product
HIV	Human Immuno Deficiency Virus
HLGC	Home Loan Guarantee Company
ICC	International Conference Centre
ICT	Information and Communication Technology
IDCs	Industrial Development Certificates
IDP	Integrated Development Planning
IDPs	Integrated Development Plans
IMF	International Monetary Fund
IPIUs	*Zones de Peuplement lndustriel et Urbain*
ITS	Intelligent Transport System
IUR	International Urban Research
KIP	Kampung Improvement Programme
KZN	KwaZulu-Natal
LA	Local Authorities
LAPs	Local Area Plans
LDDC	London Docklands Development Corporation

LED	Local Economic Development
LETS	Local Exchange Trading Systems
LFTEA	Less Formal Township Establishment Act
LGTA	Local Government Transition Act
LMS	London Missionary Society
LTA	Labour Tenants Act
LTDF	Long Term Development Framework
LUMS	Land Use Management Systems
LQ	Locations Quotients
LRAD	Land Redistribution for Agricultural Development
MAs	Metropolitan Areas
MDA	Municipal Demarcation Act
MDP	Manufacturing Development Programme
MNC	Multi-National Corporations
MSA	Municipal Systems Act
NGO	Non-Governmental Organization
NHFC	National Housing Finance Corporation
NPDP	National Physical Development Plan
NSDL	New Spatial Division of Labour
NSDP	National Spatial Development Perspective
OFS	Orange Free State
OECD	Organization for Economic Development
PPPs	Public Private Partnerships
PR	Polarisation Reversal
PSEDS	KwaZulu-Natal Provincial Spatial Economic Development Strategy
PVOs	Private Voluntary Organizations
Pvt	Private Limited
PWV	Pretoria-Witwatersrand-Vereeniging

QUANGOs	Quasi-Autonomous Non-Governmental Organizations
R&D	Research and Development
RDP	Reconstruction and Development Programme
REPs	Regional Employment Premiums
RSA	Republic of South Africa
RSC	Regional Services Council
RSS	Regional Sectoral Specialization
SA	South Africa
SAICCOR	South African Industrial Cellulose Corporation
SAIRR	South African Institute of Race Relations
SAPS	South African Police Service
SASOL	South African Coal and Oil
SAPREF	South African Petrolium Refinery
SCAA	Sectoral Catchment Area Analysis
SDB	South Durban Basin
SDCEA	South Durban Community Environmental Alliance
SDF	Spatial Development Framework
SDI	Spatial Development Initiatives
SDMS	Shisaka Development Management Services
SDP	Spatial Development Plans
SEPC	Social and Economic Planning Council
SHS	Sustainable Human Settlements
SMEs	Small and Medium Enterprises
SMLA	London Standard Metropolitan Labour Area
SO2	Sulphar Dioxide
SPP	Surplus People Project
SSA	Sub-Saharan Africa
TB	Tuberculosis

TFR	Total Fertility Rate
TLCs	Transitional Local Councils
TMCs	Transitional Metropolitan Councils
TNCs	Transnational Corporations
TRCs	Transitional Rural Councils
U	Urbanization
UDCs	Urban Development Corporations
UDZ	Urban Development Zones
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme
UN Habitat	United Nations Human Settlements Programme
UNPF	United Nations Population Fund
URRAs	Urban Regions and Rural Areas
USA	United States of America
WB	World Bank
WCED	World Commission on Economic Development
WWW	World Wide Web

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1. Chapter One: Introduction

1.1 Background

Historically, global settlement patterns and trends have been influenced by various social, economic, technological and political forces. Although the history of cities can be traced back to ancient times, during the pre-industrial era, the world was largely rural. The dawn of the modern era brought significant changes to settlement patterns and trends. Modern settlement patterns and trends were largely shaped by the industrial revolution in the early 19th century which transformed Western countries from largely agrarian to manufacturing economies. This process over-concentrated the majority of the population in a few large manufacturing urban centres. In the early stages of the industrial revolution this resulted in problems such as the outbreak of diseases due to the lack of proper sanitary arrangements; congestion and the loss of prime agricultural land due to the high rates of the conversion of rural land-use to urban usage. This in turn led to the introduction of policies aimed at promoting the growth of small and medium sized urban centres as a way of countering the problems brought about by urbanization.

Significant changes to settlement patterns and trends in the Western world were also brought about by the emergence of the techno-economic paradigm. The emergence of this paradigm mid-way through the 20th century saw new dynamics and trajectories emerging namely, the decline of the manufacturing sector and the rise of the service sector; the relocation of manufacturing industries to less developed regions of the world and the concomitant emergence of the Transnational Corporations (TNCs); the emergence of regional and global supranational governance bodies such as the European Union (EU) and United Nations (UN) and the emergence of the discourse of sustainable development largely due to environmental concerns, to mention but a few.

Furthermore, from the early 19th century the demography of Western countries underwent significant changes due to forces such as international migration, advances in health care and changes in the socio-cultural status of women in society. International migration in and out of Western countries played a significant role in shaping cities; this was illustrated by the existence of pockets of ethnic minorities, most of which stay in isolated communities without adequate socio-economic facilities. Due to advances in medicine and the increasing participation of women in the labour market which can partially be attributed to the rise of the service economy Western countries experienced lower birth and death rates.

Settlement challenges in the 21st century in the developed world have centred on enhancing the competitiveness of cities as the techno-economic paradigm heralded intense competition among regions and nations for investment. Ways to promote the cultural sector, especially tourism, have been explored in order to fill the gap left by the declining manufacturing sector. Sustainable development has also been a challenge in the face of fears of global warming and climate change. Integrating an increasingly diverse and multi-cultural city in the face of international migration and the increasing gap between the rich and the poor is another significant challenge for the Western world.

In the developing world, although there are space and time variances, settlement patterns and trends have been largely influenced by developments in the Western world. The history of modern day settlements can be traced back to colonialism as European settlers established cities in largely rural and agrarian societies for the purposes of extracting natural resources for manufacturing industries in their motherlands. With the emergence of the techno-economic paradigm in the developed world, the dynamics of settlements in developing countries came to be closely associated with rapid urbanization as the rural populace was drawn to the cities by Western manufacturing industries that relocated to the third world in search of cheap labour. The end of colonisation brought with it two contradictory twin processes, namely high rates of urbanization and states that were unable to provide the required social and economic services. Towards the end of the 20th century most developing world countries adopted neo-liberal economic policies whose austerity principles demanded a reduction in state spending on social services. This despite the fact that most third world cities, especially in Africa, failed to create sufficient agglomeration economies, partly due to their inferior integration in the global economy (Kaplan *et al*, 2004). As such, from the dawn of democracy to the present day, most third world countries have been faced with numerous settlement challenges which range from the legacy of socio-economically fragmented colonial spatial policies, to high rates of unemployment and a shortage of basic services such as health, sanitation, shelter in cities and threats of diseases such as the Human Immuno Deficiency Virus (HIV).

In the South African context, colonial and apartheid policies resulted in distorted settlement patterns. Apartheid spatial planning policies especially the Group Areas Act and Bantu Self Government Act of 1950, divided South Africa along racial lines; poorer communities were removed from social and economic opportunities in cities, while rural areas were characterized by dispersed settlements with no access to basic infrastructure including water, electricity and sanitation.

The new democratic post-apartheid government sought to reverse these negative settlement patterns and trends to achieve sustainable human settlements through the integration of social and economic activities (Breaking New Ground, 2004). However, despite these good intentions, the apartheid legacy of spatial inequality along racial lines is still prevalent (*ibid*). Furthermore, a number of negative settlement trends are emerging in the form of new, poorly located and unsustainable settlements because of conflicts between the longer-term and shorter-term objectives of sustainability (South African Cities Network Report, 2006). The province of Gauteng for example, faces problems of urban decay, lack of access to housing, water, sanitation, health care and roads, and the creation of crime free environments (Masondo, 2009). These problems are attributed to multiple factors, such as rapid urbanization and urban growth (Johannesburg is currently growing at a rate of between 3 and 4% every year, (*ibid*)). In addition, there is a high prevalence of HIV//Acquired Immune Deficiency Syndrome (AIDS), a proliferation of squatter settlements in undefended public space and capital flight (Mokonyane, 2010).

All these settlement challenges facing the developing world in general and South Africa in particular, are occurring in a context where there is no model or tool to synthetically monitor emerging settlement patterns and trends in order to ensure well targeted public and private investments. This is despite the fact that it has long been recognized that settlements are made up of various multi-faceted dynamics, such as population, economic importance, employment, and service provision among others, which have repercussions within and outside a settlement as well as on one another (UN Habitat State of the World‟s Cities 2008/2009; Pacione, 2005; Hagget *et al*, 1977).

1.2 Statement of the problem

The province of KwaZulu-Natal (KZN) is characterized by a complex settlement pattern which has evolved through layers of past policies to encompass urban centres with high growth potential and towns and rural settlements with little growth potential and high needs (Robinson and Lincoln, 2008). Historically, the main policies that influenced settlement patterns and trends are the apartheid policies of spatial segregation which were put in place by the Group Areas and Bantu Self Governing Acts of 1950. According to Schensul, (2008) in the city of Durban for instance, the White and Indian racial sub-groups by and large stayed in exclusive surbubs or inner city areas whilst on the other hand the Black racial group mostly stayed in peripherally located townships. African townships such as Umlazi and KwaMashu had limited socio-economic opportunities compared to core neighborhoods such as Glenwood and Glenmore which had supportive socio-economic infrastructure.

The Bantu Self Governing Act distorted settlements in the province. On one hand, Africans were allocated a self-governing territory KwaZulu (homeland) which had limited life-supporting infrastructure whilst on the other, the White populace was allocated their own self-governing territory, Natal, a largely urban area encompassing Durban and its satellite towns such as Pinetown. The effect of this was that informal settlements developed on the boundary of the homeland of KwaZulu and Natal in areas such as Inanda close to Pinetown, as marginalized Africans escaped at the core of the homelands by settling close to „White South Africa".

Since the advent of democracy in 1994, post-apartheid SA spatial development policies have attempted to mitigate the severe, negative effects of the apartheid settlement pattern and to create more compact, efficient and sustainable settlements. However, more than 15 years after the inception of such policies and despite the significant levels of public and private investment, settlements in KZN remain much as they were. The KZN Provincial Spatial Economic Development Strategy (PSEDS) (2007) notes that despite efforts to address poverty in the province through policies and programmes focusing on employment creation unemployment rates are increasing. The unemployment rate in EThekwini Municipality in 2010 was 35.5%, considerably higher than the national rate of 22.9% (EThekwini Municipality Online, 2010).

Urbanization is also a significant challenge facing the province of KZN. According to the PSEDS, 50% of the present population in KZN is urban (5, 2 million) but this is expected to increase by 3 million to around 8 million by 2018. The high rates of urbanization are leading to urban sprawl due to a shortage of appropriately located land for low income housing. Many of the low income housing projects, developed during the past 20 years have been poorly located on the periphery of the city, some distance away, or in rural settlements with no economic base (Department of Housing (DoH), 2008). In the city of Durban for instance, the EThekwini Municipality Housing and Densification Strategy (2007) notes that the majority of projects are located at the metro-fringes with mono-functional single residential development, limited access to social and economic facilities, and limited housing typologies and income mix. The challenges of urbanization are also manifested by the informalization of undefended public space as the cities in the province fail to cope with housing backlogs. Misselhorn (2008) notes that informal settlements house the bulk of low income households within cities in KZN, mainly within EThekwini Municipality and other major urban centres such as Pietermaritzburg, and Richards Bay.

Furthermore, new trends in terms of the movement of people in the province are also being noted. Cross *et al* (2007) observe that significant rural to urban migration to major cities is also occurring along side rural to urban mirgration to small and intermediate cities in the province of KZN due rising unemployment rates in the major cities. According to Cross *et al* (*ibid*), this is leading to the emergence of dense rural settlements. This raises policy concerns as it is a relatively new phenomenon whose implications for service delivery are not known, unlike the dense urban informal settlements.

It is in this context that the PSEDS (2007) argues that the core development problem in KZN is that the prevailing settlement pattern is inefficient and that current trends are unsustainable. Furthermore, the PSEDS notes that neither the existing settlement pattern nor the likely future pattern based on current trends, provide an effective spatial framework for economic and social development in KZN.

1.3 Objectives

This section outlines the objectives of this research study based on the background to the research problem and the statement of the problem concerning emerging settlement patterns and trends in the province of KZN. It is based on the premise that settlement patterns and trends both locally and globally are influenced by various interrelated historical, physical, political and economic factors. Thus for settlement development plans to be sustainable, they need to take cognizance of these factors.

1.3.1 Main objective

The main objective of this research study is to develop a framework for assessing settlement patterns and trends to enable the formulation of well targeted sustainable settlement development plans both locally and internationally.

1.3.1.1 Sub-objectives

a) Developing a theory of settlement patterns and trends for the comprehension of multi-faceted settlement development challenges and dynamics.

b) To evaluate and correlate international precedents on the evolution of settlements patterns both in the developed and developing world. This provides an opportunity for South Africa and KZN in particular to learn through cross reference and comparisons.

c) Assess the historical evolution of settlement patterns and trends in South Africa in general and the province of KZN in particular.

d) Developing techniques for empirically assessing settlement patterns and trends before consequently applying the techniques on the practical assessment of settlement patterns and trends in KZN to demonstrate their practical usage in the process test the hypothesis of the research study.

e) Developing a model for the formulation of sustainable development plans including making recommendations for the local and international context.

1.4 Research questions

1.4.1 Main Research Question

What are the components of a framework for assessing settlement patterns and trends to guide sustainable settlement development plans and what are the implications for development planning in South Africa?

1.4.1.1 Sub-Questions

a) What are the key structuring concepts and theories that make up a theory of settlement patterns and trends and in what ways are they interrelated?

b) What are the international precedents on settlement patterns and trends and development planning?

c) What is the international best practice on development planning vis-à-vis settlement patterns and trends and how can this inform the South African context?

d) How did current settlement patterns and trends in South Africa in general and KZN in particular emerge?

e) What are the techniques for an empirical assessment of settlement patterns and trends and in what ways are they pragmatic for application?

f) What are the existing and emerging settlement patterns and trends in KZN province and what are their implications for sustainable settlement development plans?

g) What are the overall recommendations of the research study in relation to well targeted sustainable settlement development plans for settlements at a meso (KZN), micro (South Africa) and macro (international) level?

1.5 Hypothesis

In spite of post-apartheid South African government intentions to create more compact sustainable settlements as expressed in various policy documents, the prevailing settlement pattern in KZN shows little change to date and there are signs that some emerging trends are not sustainable.

1.6 Definition of key terms

1.6.1 Settlement

The term settlement refers to a physical locality where people stay persuing their social and economic activities. In the context of the case study used in this study the term denotes geographical political boundries in South Africa namely Provincial, and District and Local Municipalities. The use of the term is nevertheless not limited to political boundries but it also includes other social, economic and physical basis of differentiating where people live.

1.6.2 Framework

According to the Oxford Dictionary a framework refers to a set of assumptions, concepts, values, and practices that constitute a way of viewing reality. In the context of this study, the term specifically refers to the concepts, values and practices that relate to the comprehension and assessment of settlement patterns and trends and also the consequent formulation of sustainable development plans on this basis.

1.6.3 Synthetic

In the context of this study the word synthetic refers to combined separate elements of a phenomenon which form a coherent whole giving a clear and holistic comprehension of a subject matter under scrutiny. The term synthetic is informed by the Hegelian Philosophy of gaining knowledge through juxtaposing a thesis against an anti-thesis before finally arriving at a logical conclusion (synthesis) which combines both thesis and anti-thesis. This research uses the term synthetic in the context of concepts, theories or methodological tools and techniques that comprehend the multi-faceted and integrated nature of settlement challenges in order to guide the formulation of sustainable development plans.

1.6.4 Development Planning

It is a mechanism for the delivery of the objectives of planning systems through setting out the main considerations for planning applications, guiding a range of other responsibilities of local government and also provision of policies and proposals for the development and use of land (Prior, 2000). As such development plans spatially guide social, economic and environmental developmental strategies in a given settlement. In line with this view sustaibale development plans are viewed as those that are responsive to the spatial distribution settlement development challenges such as the relatively high concentration of unemployment, illiteracy, infrastructure and services backlogs and overcrowding in low income residential areas compared to high and middle income residential areas.

1.7 Research methodology

This section outlines the methodology adopted by this research study. The methodology provides the basis for meeting the overall objective of the research and the affiliated sub-objectives. The overall objective of this research study, as highlighted earlier, was to develop a framework for assessing settlement patterns and trends to guide sustainable settlement development plans. The affiliated sub-objectives were to develop a theory of settlement patterns and trends, the application of the theory to international and local precedents, developing empirical techniques for assessing settlement patterns and trends and application of these to the case study of KZN province and finally, developing a framework for assessing settlement patterns and trends to guide sustainable settlement development plans before concomitantly making recommendations.

Nachimias and Nachimias (1996), highlight that research methodology entails a set of rules and procedures upon which knowledge is based and evaluated. This research is based on a case study of KZN province in South Africa. A case study is used as the basis for drawing conclusions in similar situations (Leedy and Ormod, 2005). The province of KZN was selected as the case study in view of the fact that it is the product of a quasi-federalist approach to redrawing post-apartheid South African political boundaries that resulted in the demarcation of nine provinces on the basis of geographic, social and economic criteria. As such, the province is a typical post-apartheid South African province. Furthermore, as noted earlier, the province faces a myriad of settlement challenges more than 15 years after the demise of apartheid regardless of positive policy intentions, in common with other South African provinces. Since the province is a microcosm of South Africa in this regard, other South African provinces can draw instructive insights from this study.

Within the province of KZN, the research study used EThekwini Municipality for in-depth analysis. The reason for choosing EThekwini Municipality is that it is a reflection of past and present settlement patterns and trends in South Africa and the province of KZN. At the peak of apartheid in the mid-1980s, the Durban city area of present day EThekwini Municipality was made up of three racially, socially and economically differentiated spaces, namely urban African townships on the peripheries, and also exclusive core or sub-urban areas either for Indians or Whites (Schensul, 2008). Present day EThekwini Metropolitan Municipality is also a product of the Municipal Demarcation Act (MDA) of 2000 which demarcated local municipalities on the basis of the „wall to wall" notion which incorporated a range of settlement typologies within a single municipal jurisdiction. EThekwini Municipality is made up of a range of settlement typologies which reflect past and present settlement processes in KZN and South Africa at large. These include formally established areas such as the Berea, Westville, and Kloof; long established townships, many with backyard shacks and pockets of informal settlement such as Chesterville, Umlazi, KwaMashu, Mpumalanga, Chatsworth and Phoenix; new Reconstruction and Development Programme (RDP) townships such as Chesterville Extension, Welbedacht, Waterloo and Illovo; informal settlements within established formal areas such as Cato Crest, Folweni, Bambayi and St Wendolins; informal settlements located at the periphery such as Fredville, Cottonlands and Amahlongwa; and peri-urban and rural settlements at the periphery such as Umbumbulu, Umgababa, Inchanga and Ximba (Robinson and Lincoln, 2008). Furthermore, EThekwini Municipality is made up of a range of town centres from small rural town centres with little potential for growth, such as Umbumbulu in the south to large established city centres such as Durban which offer a range of growth options, and those in-between, including ex-urban town centres such as Umhlanga and former satellite towns as Pinetown in the Outer West.

EThekwini Municipality is therefore a microcosm of the typical South African settlement typology and system at all levels namely local, provincial, and national. It was therefore used as a case study for the empirical in-depth assessment of settlement patterns and trends in KZN. To achieve the overall and affiliated sub-objectives using the case study of KZN province, this research study used local and international secondary data sources, as well as primary data sources mostly from the selected case study area for in-depth analysis.

1.7.1 Secondary data sources

The secondary literature was consulted in order to develop a theory of settlements based on the key structuring concepts of settlements namely function, population and morphology. The literature was

reviewed to come up with a synthesis (synthetic theory) of settlement patterns and trends. The literature emanating from the discipline of geography was explored with specific reference to the service and economic role of settlements. Various journal articles and text books on the central place theory such as the article by Wanamali and Islam (1995) and text books by renowned geographers such as Knox (1994), Nagle (2000) and Pacione (2005) were consulted. The economic function of settlements was conceptualized in terms of the notions of difference, differentiation and heterogeneity outlined in the geography literature especially the *Oxford Handbook of Economic Geography* edited by Clark *et al* (2003).

The population aspect of settlements on both a conceptual and theoretical level drew on various journal articles and textbooks on demography, urbanization and urban growth and migration. Finally, the morphological aspect of settlements from a theoretical and conceptual perspective used literature focusing on the ecologically inspired models of urban form spearheaded by the Chicago School in the 1920s. The underpinning paradigms – classical Marxism, urban managerializm, urban political economy and post-modernist schools of thought – were based on literature from geography and renowned social theorists such as George Ritzer (1996) and Antony Giddens and Haralambos (1990).

Settlement patterns and trends in the developed world were drawn from the literature on planning, the history of cities, and development policies in the developed countries, especially Europe and America. The rationale was that most developed countries especially Britain, experienced the same settlement challenges in their early and intermediate phases of industrial and urban growth that developing countries such as SA are currently facing; furthermore some of the settlement challenges they are currently facing are similar to those in the developing world. The literature on settlement history and urbanization and urban growth from countries which have similar historical and current settlement development trajectories as SA, such as Latin America and other parts of Africa, was consulted. Local settlement patterns and trends in SA at large and KZN in particular were gleaned from the literature on the history of apartheid social, economic and spatial segregation in SA. Post-apartheid settlement patterns and trends were established from the literature on post-apartheid spatial planning policies, regional planning, urban studies, population studies and geography. The purpose of reviewing precedents from both the developed and the developing world including the local environment was to aid learning through cross reference and comparisons.

The development of techniques for empirically assessing settlements was based on the secondary literature from geography and regional planning that explains techniques for the practical

measurement of accessibility, services (functional analysis), difference (comparative advantage), differentiation (competitiveness), heterogeneity (labour force characteristics) and techniques for discourse analysis to ascertain multiple and sometimes competing narratives that manifest themselves spatially.

Secondary sets of data were also used in the empirical application of the techniques for empirically assessing settlement patterns and trends to assess settlement patterns and trends in the case study in KZN Province. Demographic and economic patterns and trends were based on the 1996 and 2001 censuses and the Community Survey of 2007, all conducted by Statistics South Africa. Functional analysis was based on Braby‟s 2010/2011 Business Directory for KwaZulu-Natal Province. Braby‟s (Pvt) was established in 1904 as a business directory for Southern Africa and provides information on businesses, communities, government offices, and recreation and entertainment facilities offered in different business centres. The accessibility analysis for EThekwini Municipality was based on a series of accessibility studies undertaken by the Centre for Scientific and Industrial Research (CSIR) on behalf of EThekwini Municipality in 2001, 2006 and from 2008 to 2010.

1.7.2 Primary data sources

Primary data for this research study were obtained by conducting in-depth semi-structured interviews and focus group discussions with various stakeholders and key informants in the selected case study areas from the range of typologies that make up EThekwini Municipality that represent the settlement typologies of KZN at large. Primary data were also obtained through in-depth semi-structured interviews with the Head of the Planning Department of EThekwini Municipality as well as planners responsible for steering and coordinating the formulation of Integrated Development Plans (IDPs) for the four functional regions of EThekwini Municipality. In-depth semi-structured interviews were also conducted with the Deputy Head of the Economic Development Unit of EThekwini Municipality.

The interviews were based on a synthetic questionnaire to assess settlement patterns and trends whose variables were drawn from the key structuring elements of settlement patterns and trends, namely function, population and morphology and the various theses within and outside them. As such, the main themes that guided the questions are access to facilities, services available in settlements, social and economic characteristics of the population, performance of various economic sectors, policies and plans based on differentiation and heterogeneity, urbanization and urban growth trends and the affiliated theme of migration, as well as competing narratives and how they are

spatially manifested. The questionnaires developed based on these themes, for the different respondents are appended in appendices 1 to 5 at the end of this thesis.

The main purpose of sourcing primary data based on the themes was to reinforce and validate secondary data that were sourced for accessibility, services, demographic, economic and discourse analyses for all the wards and settlement typologies in EThekwini Municipality. The sources of primary data in the selected case study areas are the key stakeholders in the formulation of IDPs in EThekwini Municipality which have been reviewed on an annual basis from 2000 to the present; they present rich evidence on the trends and patterns investigated by the synthetic questionnaires. Furthermore, the planning data and data for the formulation of IDPs are based mostly on censuses; the various stakeholders interviewed were in some instances in agreement with this data and in other instances at odds with it.

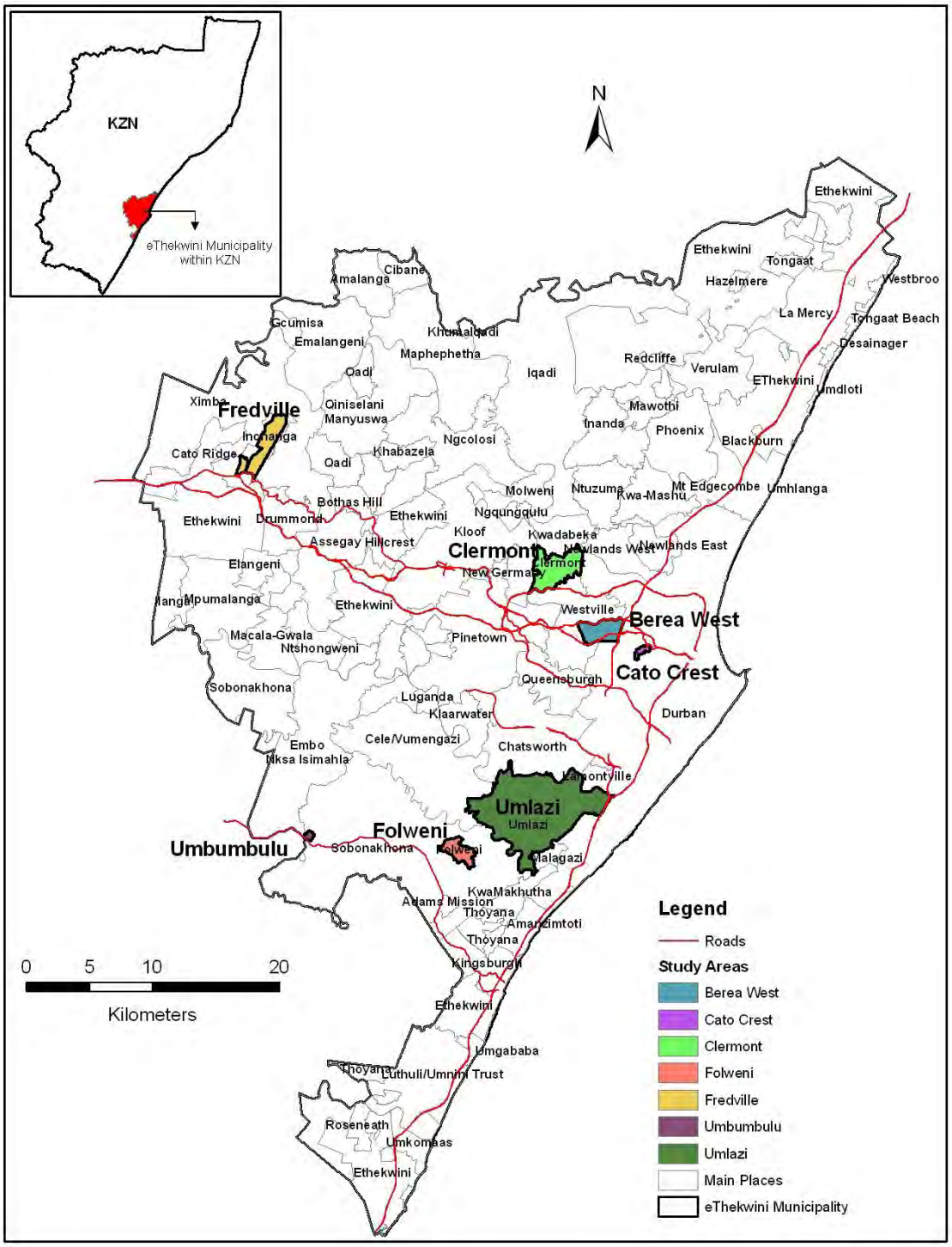
1.7.2.1 Selection of case studies to obtain primary data

The selection of case studies for sourcing primary data was based on the selection of a single settlement typology that represents a single category on the range of settlement typologies that make up EThekwini Metropolitan Municipality; these are also a reflection of the range of settlement typologies in KZN in general. They consist of formal established neighborhoods, long established townships mostly with backyard shacks and pockets of informal settlement, new townships (bond and RDP housing); informal settlements within and around established areas; informal settlements at the periphery and peri-urban and rural settlements at the periphery. Interviews and focus group discussions were conducted with key informants and various stakeholders in these areas.

The typologies that were chosen that reflect this range are the Berea (formal), Umlazi (long established township with backyard shacks and pockets of informal settlement), Cato Crest (informal settlements within established areas), Fredville (informal settlement at the periphery), Folweni (peri-urban area at the periphery) and Umbumbulu (peri-urban settlement at the periphery). The Berea is one of the oldest established formal sub-urban areas in Durban which was designated exclusively for White occupation during the apartheid era. One of the main suburbs that make up the area is Glenwood and Musgrave. Umlazi is one of the oldest African Townships established during the apartheid era as result of the Group Areas Act for exclusively Black occupation. Cato Crest is one of six informal settlements within established formal areas; it is located approximately 7km from the Durban Central Business District (Leclerc-Madlala and Janowski, 2004). Fredville is located at the periphery of the Outer West region of EThekwini Municipality close to the Inchanga node. Folweni

is a peri-urban settlement located south of the Durban CBD after Umlazi and Isipingo. Umbumbulu is a peripheral rural area located approximately 40 kilometers from the Durban CBD. A map of EThekwini Municipality and selected case studies for in-depth primary study is shown below in Figure 1.1.

Figure1. 1 EThekwini Municipality and selected primary study areas



In-depth semi-structured interviews with councilors and wards committees

The in-depth semi-structured interviews were informed by the fact that the Municipal Systems Act of 1998 requires the establishment of ward committees to enable communities to participate in municipal governance. According to the Republic of South Africa, Provincial and Local Government Department (2005) ward committees are chaired by a ward councilor and are made up of various interst groups within a given ward representing the various polititcal, social and economic needs. In the context of the IDP, ward committees play a proactive role in representing their communities and informing them about the IDP process. Ward committees, together with stakeholder associations (social workers, community based organizations (CBOs), non-governmental organizations (NGOs) and other resource persons) together make up the IDP Representative Forum.

Focus Group Discussions with the IDP Representative Forum

The IDP Representative Forum is made up of Ward Committees and Stakeholder Associations which are comprised of interest groups such as CBOs, NGOs, community environmental groups, social workers, church groups, small and medium-sized enterprises (SMEs) and big businesses, to name but a few. The aim of the focus group discussions (FGDs) was to obtain texts for discourse analysis by obtaining the views and opinions of participants on the various themes of the synthetic questionnaire. A trained focus group facilitator was used to facilitate the discussions.

1.7.3 In-depth semi-structured interviews with EThekwini Municipality Planners responsible for the four functional regions and Head of Planning Department

The Planning Department of EThekwini Municipality is responsible for the development and implementation of the integrated spatial planning system (EThekwini Municipality Online, 2010). This entails a hierarchical and integrated system that extends from city wide and long term planning (Long Term Development Framework, IDPs and Spatial Development Frameworks) to more detailed spatial plans (Spatial Development Plans, Local Area Plans and Precinct/Special Area Plans) and Land Use Management Systems (*ibid*). At an aggregate level, IDPs are prepared for the whole municipality. However, for the purposes of easier management and coordination of development plans, the municipality is divided into four functional regions, namely Outer West, North, Central and South Regions. The four functional regions prepare Local Area Plans (LAPs) within the municipality‟s broader framework of IDPs. As such semi-structured in-depth interviews were conducted with the Head of the Planning Department as she has overall knowledge of settlement development dynamics and plans for the whole municipality, as well as planners responsible for the

four functional regions, as they have knowledge of the settlement development plans and dynamics therein.

1.7.4 Interview with the Head of the Economic Development Unit of EThekwini Municipality

According to the EThekwini Municipality website (www.durban.gov.za) the Economic Development Unit of EThekwini Municipality has a mandate to Local Economic Development in the Municipality in line with IDPs. Interviews were therefore conducted with the departmental head, as he has knowledge of settlement trajectories and strategies; as the unit‟s mandate is supposed to be responsive to population dynamics and challenges in the municipality.

1.7.5 Analysis

Analysis of secondary and primary data followed the different techniques for demographic, functional, accessibility, regional economic and discourses analyses. A detailed analysis description of techniques for the empirical assessment of settlement patterns and trends is provided in Chapter Eight.

1.7.6 Ethical Issues

The research considered all ethical issues pertaining to human research which include informed consent, confidentiality, and emotional safety. The researcher made sure that all the participants were aware that participation in this research was voluntary and that they were free to withdraw from the project if they no longer wished to participate. Permission to conduct the research was obtained from the relevant government departments and community leaders of the settlements chosen for in-depth study. Confidentiality was also ensured by assigning pseudonyms to the participants.

1.8 Thesis structure

This thesis is arranged in order to meet all the objectives of the study. It is divided into ten chapters. The current chapter is the introduction to the research study. It begins by providing a background to the problem of assessing settlement patterns and trends at a global scale in both the developed and developing world before focusing on South Africa. It then presents the specific problem of emerging settlement patterns and trends in the province of KZN. This is followed by the presentation of the research objectives and research questions all of which aimed at addressing the research problem. A hypothesis of the research study is presented, followed by the overall methodology adopted. Finally the structure of the thesis is outlined; this aimed to achieve the objectives of the research study and answer the research questions.

Chapter Two provides the conceptual and theoretical framework of the research. It explores the key structuring concepts of the term „settlement" and their underlying theories. It argues that settlements are given meaning by three interrelated concepts, namely, morphology, function and population. After exploring the various theories underlying these concepts in a dialectical manner; it presents a synthetic theory as the basis for analyzing how settlement patterns and trends evolve over time.

Chapter Three presents precedents in the evolution of settlement patterns and trends in the developed world based on the synthetic theory of settlement patterns and trends framework of analysis. Using secondary literature, this chapter explores the evolution of settlements in the developed world to their present state at an international level.

Chapter Four focuses on the patterns on the evolution of settlement patterns and trends based on experiences in the developing world to enable South Africa in general and KZN province in particular, to learn through comparison and cross reference from countries which are in more or less similar development milieus.

Chapter Five focuses on precedents in settlement patterns and trends in South Africa at large from colonial times up until the end of the apartheid era in 1994. Chapter Six presents post-apartheid South Africa settlement patterns and trends in order to ascertain similarities and differences between apartheid and post-apartheid settlement patterns and trends. The framework of analysis used in the two chapters is the synthetic theory of settlement patterns and trends developed in Chapter Two. The aim of these chapters is to contextualize the province of KZN within the broader South African settlement history and present trajectories to set the scene for an in-depth analysis of the province in the chapters that follow.

Chapter Seven presents patterns and trends of settlements in the case study of KZN province from colonial times to the present post-apartheid era based on the synthetic theory of settlement patterns and trends framework of analysis. The main objective is to enlighten the empirical study of settlement patterns and trends in KZN which is based on techniques for empirically assessing settlement patterns and trends developed in the next chapter. This chapter facilitates this by presenting a settlement typology that reflects the past and present settlement trajectories.

Chapter Eight develops techniques for the empirical assessment of settlement patterns and trends based on the dialectical juxtapositioning of tools and techniques for the practical measurement of different concepts and theories that make up the synthetic theory of settlement patterns and trends.

Chapter Nine demonstrates the practical use of the techniques for empirically assessing settlement patterns and trends based on its application to the empirical assessment of emerging settlement patterns in EThekwini Metropolitan Municipality in the province of KZN. EThekwini is chosen for demonstration and hypothesis testing purposes on the basis of a range of typologies that reflect the past and present settlement typologies in the KZN province at large.

Chapter Ten provides the conclusion and recommendations of the research study. It is based on the researcher‟s reflections on whether the main objectives of the research study have been met. In the process, the chapter assesses whether the researcher has theoretically and empirically established a new body of knowledge that will contribute to the emancipation and positive transformation of the majority of humanity trapped in poverty and exposed to the vagaries of development in an increasingly uncertain and restless world. It culminates in the presentation of a model for assessing settlement patterns and trends to guide sustainable settlement development plans.

1.9 Summary

This chapter has introduced the research study. It provided the background to the multi-faceted problem of emerging settlement patterns and trends in KZN province, South Africa and the world in general. The main thrust of the chapter is to argue for the development and application of a synthetic theory to inform a sustainable path for settlement patterns in South Africa and KZN in particular. This is the preoccupation of the proceeding chapters.

2. Chapter two: Conceptual and Theoretical Framework

2.1 Introduction

The focus of this chapter is to develop a theory for comprehending the multi-faceted nature of forces and factors that impact the evolution of settlement patterns and trends. The term „settlement" refers to the physical locale where people stay and perform socio-economic functions (Tringham, 1972; Hagget *et al,* 1977; Nagle, 2000). Settlements are therefore given meaning by three interrelated concepts, namely functions; the population sustaining itself from functions; and morphology, the physical manifestation of the population sustaining itself from functions in a particular locale. This chapter explores the underpinning concepts and theories of the three interrelated structuring elements of settlements in order to construct a synthetic theory of settlements to comprehend the multi-faceted factors and forces that shape settlements.

2.2 Settlement Function

There are some functions which all settlements, regardless of their size or character, perform. These are associated to service provision for the town itself and the surrounding countryside (Cater, 1990). Services are activities that do not produce or modify goods; these include education, welfare, legal and administrative functions, and employment (Nagle, 2000). Thus it is possible to examine whether each unit consists of one community of several settlements, and the degree of political or social interaction between the settlements through an examination of the social forces involved in the spatial relationships of the different residential units (Tringham, 1972). Settlements therefore, form a series of complex interrelated places which are key to the economic, social and political organization of regions and nations (Pacione, 2005). The most widely adopted framework for analyzing the functional role and distribution of settlements is the central place theory developed by Walter Christaller in 1933 based on his study of settlements in Germany.

2.2.1 Central Place Theory

Central place theory is a spatial-equilibrium theory that is mainly economic in approach (Pacione, 2005), and seeks to describe the spatial distribution of settlements on the basis of the functions of service provision they perfom in a given region and linkages among them. It recognizes the demand for centrally located functions (services) as the main reason for the emergence of central places (service centres), as well as the importance of access (transport) to these central places and the functions they provide (Wanmali and Islam, 1995).

Christaller"s thesis is based on the following assumptions:

- Entrepreneurs locate their businesses to maximize the number of customers and to minimize costs to the business (transport, etc.).
- The attempt to gain the most favorable location results in the "clustering" of a number of entrepreneurs in areas of high population density.
- The purchasing patterns of the population reflect the fact that customers patronize the nearest center that satisfies a particular need.
- A central place is defined as an urban center serving both its own population and a surrounding, less densely populated area termed a „complementary region".
- The economic relationship between a central place and its complementary region is one of mutual dependence: The central place supplies specialized services and manufactured items to the complementary region, the inhabitants of which in turn produce the agricultural surplus needed to support the population of the central place.
- The spatial expression inherent in the above assumptions is a nested hexagonal lattice of hierarchically ordered central places associated with interlocking complementary regions.

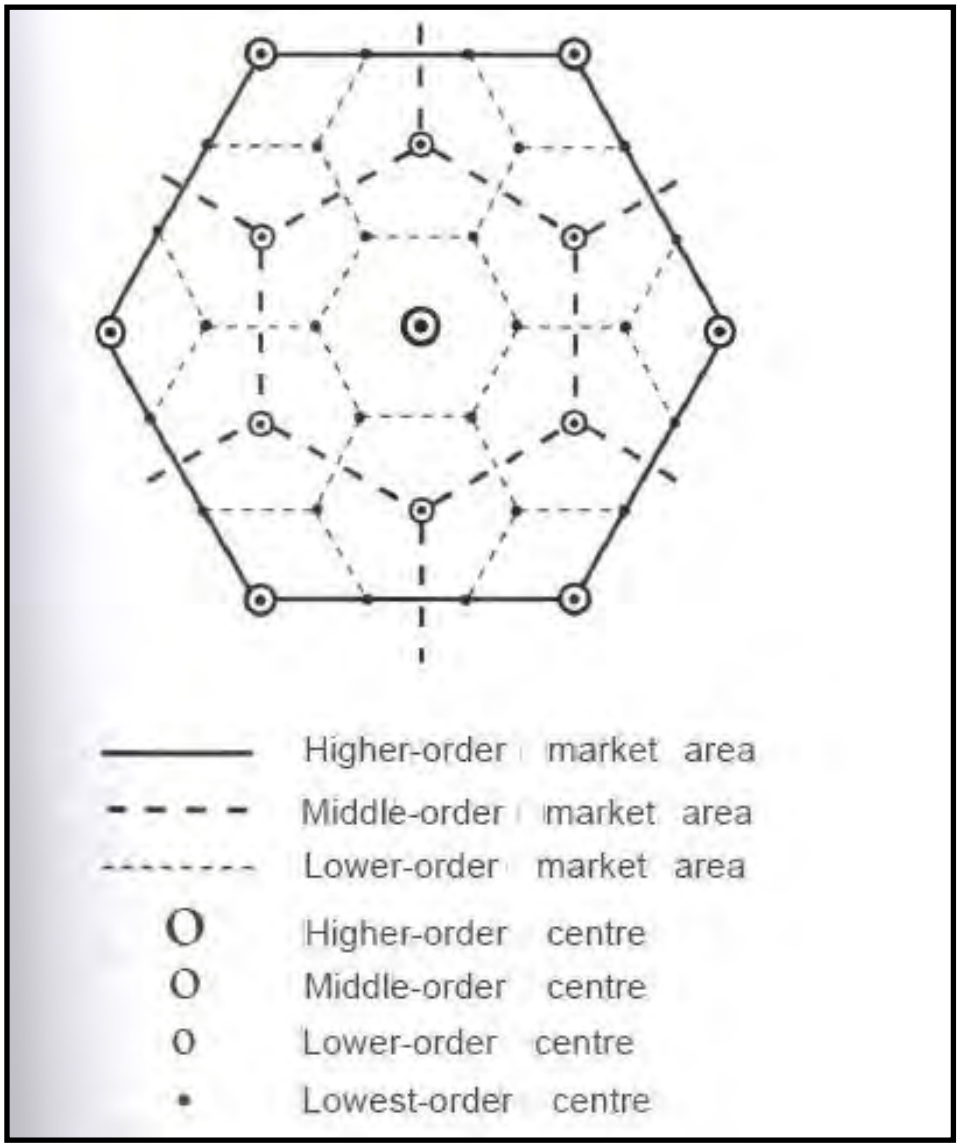
  (Crumley, 1976: 61)

Subsequent research on the central place theory has concentrated on the modification of Christaller's data-gathering techniques, with the main input coming from August Losch in 1954 (Crumley, 1976). Losch, working under the assumption of uniform population densities on an unbounded plain, provides explicit confirmation, drawn from economic data, of the orderly arrangement of market areas (*ibid*). Thus, Losch clarified the ways in which spatial demand areas arise, and verified that the hexagonal shapes of trade regions are optimal where the population to be served is uniformly distributed in the plane (Hagget *et al,* 1977).

According to the central place theory, as modified by Losch, two controls are exerted on any establishment offering a good for sale or a service: threshold population and the range of the good or service. Threshold population refers to the minimum number of people required to sustain an establishment before it can start making profit for its owner and is based on the demand or the number of people using the shop. The range of a good or service refers to the maximum distance or range beyond which it becomes too costly to travel to obtain a good. Under normal circumstances the distance anyone would be willing to travel to buy a loaf of bread is limited, as even at a short distance the cost of travel becomes greater than the cost of the purchase. Thus low range, low order goods needing low thresholds will be sold in small towns, whilst goods with high ranges and large thresholds will be sold in large towns (Cater, 1990).

In turn what emerges from the central place theory is the fact that dispersed, individual households are at the base of the rural settlement hierarchy, followed by hamlets (a hamlet is a small collection of farms and houses, lacking all but the most basic services and facilities), market towns and the bigger cities and metropolitan centres at the summit of the hierarchy (Nagle, 2000). This is illustrated by Figure 2.1 below, adopted from Pacione (2005).

Figure 2. 1: Hierarchical and spatial arrangement of central places



Source: Pacione (2005: 129)

Thus, according to Nagle (2000), market towns will draw custom from the surrounding village and hamlets and serve their own population, hence the definition of hamlet, village and town is not always very clear and these terms represent features which are part of a sliding-scale (continuum) rather than separate categories. As such Nagle (2000) highlights the term „the rural mosaic" which

points to the decline of traditional rural economic activities combined with the growth of personal mobility that has changed rural communities so much that some geographers claim there are no significant differences between rural and urban populations.

The strength of the central place theory as formulated by Christaller and modified by Losch is that some of its ideas are of practical relevance and have been widely employed in regional planning schemes in the USA, Canada, Africa, India, Europe and the Middle East (Pacione, 2005). It acknowledges the need for the centrally located services as the main reason for the emergence of central places (service centres), as well as the importance of access (transport) to these central places and the functions they provide (Wanmali and Islam, 1995). This is related to a hierarchy of settlements, spatial interaction among settlements, entry population threshold and clustering of services; service areas; service score ratios, index of service provision, median population threshold of services, locational priorities for removing regional disparities, and a spatial organizational form for regional development (*ibid*).

Nevertheless, the central place theory is not without its shortfalls. One of the main shortcomings is that, by focusing on central place functions, it fails to address other important influences on the size and spacing of cities, for example, manufacturing, and the long-distance trading functions (e.g., wholesaling) that are essential to the development of most urban functions, whether they stem from the agricultural, industrial, or service sector of the economy (Knox, 1994). Being limited to service centres, it does not include some functions, such as manufacturing industry, that create employment and population (Pacione, 2005).

Another important shortcoming of the central place theory is that it provides only a *static* model of settlement patterns that is unresponsive to changes in population densities, consumer spending power, transportation technologies, or communications systems, and as such is a model that paints a picture of a world that somehow springs into existence fully formed, with no historical antecedents (Knox, 1994). Furthermore, the central place theory assumes relatively little governmental influence on business locational decisions; yet today national and local governments play a major role in influencing business locations. For example, electronics firms were offered grants to attract them to Scotland's 'Silicon Glen' and US Sun Belt city mayors lobbied to attract investment to their cities (Pacione, 2005: 129). To overcome these shortfalls the central place theory has been modified based on the concepts of difference, differentiation and heterogeneity of settlements within or between different regions.

2.2.2 Difference

Difference between settlements relates to the fact that not only does labour market performance vary across the economic landscape within and between nations, but so, too, do capital markets, technological advancements and innovation and many related asset and factor markets. Difference can also refer to social and categorical divisions in the economy, incorporating gender, race, and related signifiers of identity and location (Clark *et al*, 2003). Therefore, in as much as every settlement is a central place; the role it plays in the system varies depending on factors of production such as natural resources, land, capital and labour, to mention but a few. Two of the most important factors which are manifestations of difference that influence the distribution and the role settlements play in regional settlement systems are the region‟s structure and location; structure refers to the resources it has at its disposal, including raw materials and energy reserves and location refers to the relative ease of access and communication that an area possesses (Nagle, 2000). As such, the difference between or among settlements and consequently their role has also been depicted by the concepts of natural advantage and comparative advantage.

Natural advantage points to the endowment of certain natural resources in a settlement which are not found in others such as coal, gold or even timber. This has an effect on the location of certain industries such as mining, sugar refineries and timber processing plants, to mention but a few. The natural advantage of a region is aptly framed by Weber‟s theory of least cost location of industry. The central argument in Weber's theory of industrial location is that sites will be selected, *ceteris paribus,* so as to minimize unnecessary movement and that they will represent minimum-energy positions (Hagget *et al*, 1977). Thus one may conceive of movement as being made up of three separate components, the *distance,* d, to be moved, the *weight,* w, of the material inputs or outputs to be moved, and the *effort* or cost, c, of moving given materials over a unit of distance (cf. Isard, 1956,pp. 81-90 cited in Hagget *et al*, 1977). Thus industries specializing in manufacturing certain products may seek to minimize the costs of transporting raw materials by locating their plants close to the source of the raw materials. Therefore, some towns may be referred as to mining or manufacturing towns which depict their special role in the system due their natural advantage owing to resource localization. As such, the distribution of central places may not necessarily reflect the distribution of population in regional settlement systems due to resource localization as anticipated by the central place theory.

The concept of comparative advantage was advanced by David Ricardo as a way of analyzing international trade. While the concept falls within the theory of trade, it can also be used to show the

different roles settlements play in the economy of regions by focusing on factors of production such as natural resources, land, capital and labour. It should also be noted that the concept of comparative advantage denotes the fact that two countries or settlements benefit from trade between themselves since the concept is not only determined by productivity alone, but also by the level of wages. Thus in regions or countries with relatively high wages, productivity is high and in those with relatively lower wages, productivity is low. Comparative advantage therefore plays a significant role in the function and distribution of settlements/central places in regional/national/international settlement systems as the location of central places might reflect firms that seek to maximize their comparative advantage.

The shortcoming of conceptualizing the difference in economic performance of different regions through the concept of comparative advantage on its own is that factors of production such as land, capital, natural resources and labour, alone cannot explain regional economics. The socio-economic milieu of nations or regions is also crucial for economic development. Thus measures of comparative advantage based on indicators such as Gross National Product (GNP) are insufficient. According to Suranovic (2007), „difference within limits" fails to acknowledge the transformation of modern economies from commodity manufacturing economies to knowledge dependant economies. The term „differentiation" is a reflection of the fact that difference is actually a product of the ongoing economic processes that sustain long term spatial variation such as government policy, scale economies, agglomeration economies and the virtues and vices of sunk costs (lock-in, commitment, embeddedness, etc) that affect the workings of settlement systems (*ibid*).

2.2.3 Differentiation

The realization that the socio-economic milieu of nations or regions (differentiation) is crucial for economic development was reflected in the introduction of the concept of competitiveness of nations, regions or settlements within nations or regions. The Organization for Economic Development (OECD) defines competitiveness as the extent countries under free trade conditions can produce goods and services that appeal to the international market at the same time maintaining and increasing real incomes of their own people. Michael Porter in his book, *The competitiveness of nations,* conceptualizes competitiveness based on a diamond approach denoting systematically connected factors. In his theory of competiveness, the main function of a region or nation is denoted by his „home base" concept:

> The home base is the nation in which the essential competitive advantages of the enterprise are created and sustained. It is where the firm"s strategy is set and core product and process

> technology (broadly defined) are created and maintained. Usually, though not always sophisticated production takes place there…..The home base will be the location of many of the most productive jobs, the core technologies, and the most advanced (Porter, 1990 p. 19 *cited* in Grant, 1991: 536).

Therefore the competitiveness of settlements in regional/national settlement systems is largely based on investment, innovation, skills, enterprise and competition. Investment focuses on issues such as macroeconomic indicators, business investment, government investment, infrastructure investment and the cost of doing business. Secondly, innovation looks into supply and demand for innovation skills, research and development expenditure, exploitation of intellectual property, knowledge exchange with the research base, and the contribution of new products to business revenue and wider innovation. Thirdly, an assessment of competitiveness based on skills focuses on the level of skills, investment in skills, the match of supply of skills to skills demanded, and utilization of skills. Enterprise analyzes enterprise culture, knowledge and skills, access to finance, and business innovation. Finally, it looks at openness to international trade and investment, the effectiveness of the competition regime and the effectiveness of the regulatory framework.

Consequently, the role that a settlement plays in settlements systems may well be a product of differentiation, determined by its competitiveness. Thus in international and regional settlement systems the most competitive cities have played a leading role as key command centres of international trade.

However, it should be appreciated that in as much as differentiation accounts for much of the difference in regional economies, and difference within the limits of different geographic regions‟ universals like demand, supply, production and consumption, this understanding of regional economics fails to capture the existence of different systems of meaning and related institutions and regional economics (Clark *et al*, 2003). Thus, heterogeneity in regional economics should be taken into account.

2.2.4 Heterogeneity

Heterogeneity points to the varied composition of forces such as race, gender, culture and religion. It is necessary to understand the cultural building blocks of economic geography, whether found in gender or racial categories or in the social capital of regions like the Silicon Valley (Saxenian 1994, cited in McDowell, 2003). Thus McDowell (2003) argues that despite the continuing theoretical dominance of the social construction of gender identity as binary with a corresponding normative discourse of heterosexuality, the diversity of gender relations, in action as it were, is increasingly

evident. For instance, she notes that, in the economic arena, the interactive service sector occupations have recut and reconnected gendered performances in relation to changing family relationships and household structures, growing economic uncertainty, casualization, and the perniciously named 'flexibility'; these demand that men and women rethink long-established gender divisions of labour and responsibilities and take on new ways of being men and women, workers and parents (Bianchi 1995, cited in McDowell, 2003). Furthermore, the ways in which gender, ethnicity, and class divide and unite individuals and groups on different issues require attention, especially in view of the fact that income differentials among women are currently wider than in any other period since World War II, exacerbated, especially in the USA, by ethnic divisions and regional variations in labour market structures, job opportunities, and unemployment rates. This has led to growing diversity in working patterns and standards of living between households.

2.3 Settlements as clusters of population

The functional classification of settlements merely captures the social and economic activities that people engage in, in order to sustain themselves. This is not enough to capture the term „settlement" as it is ignores the characteristics of the people occupying physical entities on the earth"s surface. Population therefore becomes an indispensable aspect of settlements. Population captures the people occupying a particular area of the earth"s surface, which might be a city, country, ward within a city or district within a region (Hagget *et al*, 1977).

The importance of regarding settlements as clusters of population has long been recognized (Stewart, 1958; Hagget *et al,* 1977; Efird, 1978; Hoggart, 1988; Cater, 1990; Nagle, 2000; Lutz and Qiang, 2002; Pumain 2000; Pacione, 2005). The main arguments for viewing settlements as clusters of population are that people need to adapt to their physical environment in relation to the available resources in order to survive; furthermore, people engage in temporary and permanent movement to meet their basic needs, depending on the socio-economic dynamics between or among given settlements. Measuring and predicting population dynamics therefore becomes integral to enhance the sustainable use of the earth"s resources and promote sustainable lifestyles.

The need for the population to adapt to the earth"s finite resources is noted by Thomas Malthus and Ester Boserup. This relates to the concepts of overpopulation and under population used depending on the resources available. In this regard Malthus agitated for preventative measures against population growth such as abstinence and delaying marriage in the context of overpopulation.

However, Malthus‟s argument was downplayed by Ester Boserup, who noted that food production cannot be held constant in the face of improvements in technical knowhow (Nagle, 2000).

The importance of expressing settlements as clusters of population is also prompted by the fact that people move from place to place to improve their social, economic, and political wellbeing depending on the dynamics between or among given physical entities. Population is therefore a correlate for many quantitative descriptors such as the number of jobs, firms, or the complexity of economic activities in society (Pumain, 2000).

This leads to the conclusion that the challenge that needs to be addressed at all times is acquiring a futuristic view in relation to the sate of developmental state of the population (Efird, 1978). This is facilitated by demography which provides demographic statistics which provide information relating to the size, density, distribution, and dynamics of human populations. The primary basis for aggregating population globally is the rural-urban divide. Definitions of urban and rural areas are based on demographic, economic and sociological criteria (Stewart, 1958; Tacoli, 2003). In this respect concepts of urbanism, urbanization and urban growth are therefore integral to understanding the rural-urban divide and the expression of settlements as clusters of population in general.

2.3.1 Urbanism

In most instances, the key differentiating factor upon which changes in cultural or social relationships are thought to depend is the demographic change resulting from concentration and increased density of population (Cross, 1979). Cross points to Durkheim‟s argument that change towards a greater role for *organic* solidarity or social cohesion is dependent upon greater complexity and interdependence of the constituent parts of a social system, and this itself is a necessary consequence of numbers and the 'density' of social relations.

According to Wirth (1938: 18 cited in Cross, 1979), while these characteristics could be many, they include a distinct personality type, the primacy of secondary relationships, formal organizations, anonymity, greater social and spatial mobility and weakened bonds of kinship and neighbourhood.

However it should be noted that the decline of traditional rural economic activities combined with the growth of personal mobility has changed rural communities so much that some geographers claim there are no significant differences between rural and urban populations; this leads to the use of the term „rural mosaic‟. Cater (1990) and Nagle (2000) point to four types of rural communities identified by Michael Pacione in his book, *Rural geographies*. These are:

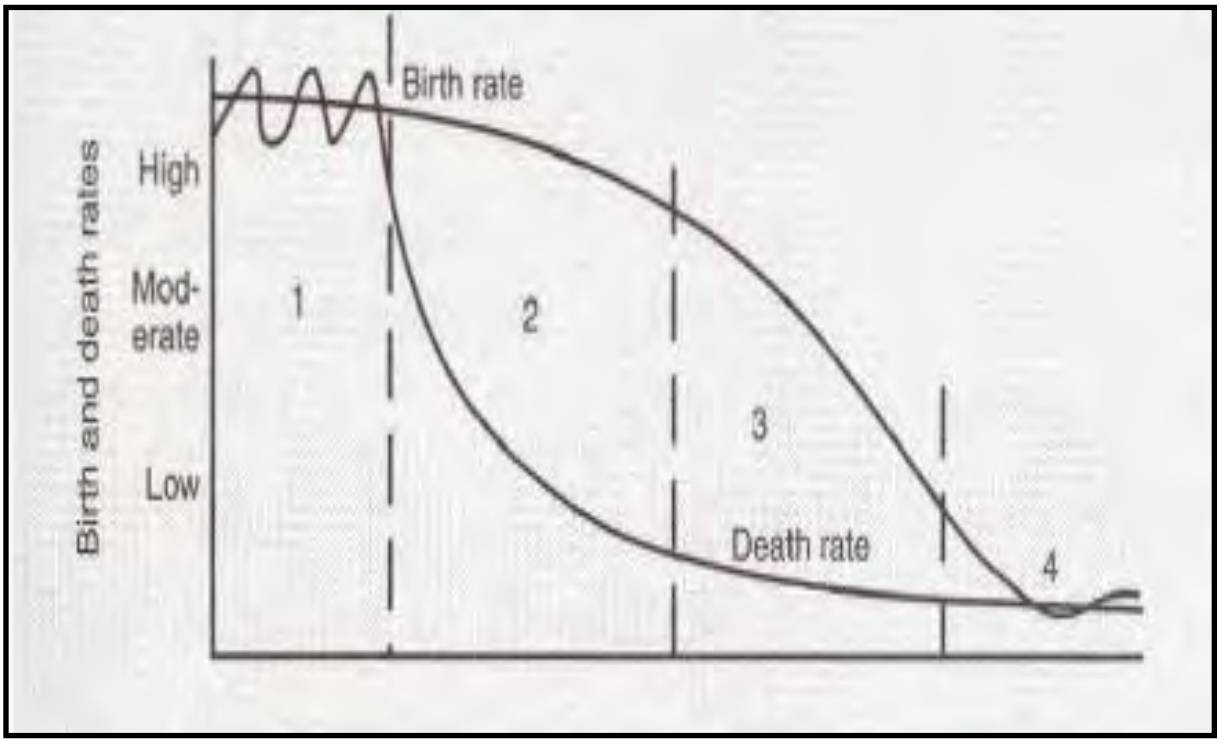
- The open, integrated rural community - This is usually large in size and diverse in occupational structure and in its institutional and organization framework. It is able to adapt to changing conditions.
- The closed, integrated rural community - This is characteristic of the most isolated areas with little change in population. It is „inward looking, self contained and traditional, maintaining firm boundaries against outside influences" (Pacione, p. 1570). Within it the roles of people are well defined and there are observed limits on the range of acceptable social behavior.
- The open, disintegrating rural community -This is a situation where there is a rapid rate of change which the community cannot assimilate. Strong external linkages are developed, leading to internal conflicts. The greatest disagreement arises between locals and newcomers.
- The closed, disintegrating rural community - This occurs where depopulation has undermined the standard village services and engendered a feeling of despair amongst the inhabitants. Under the impact of change, the old settled system is breaking apart.

It should be noted that in examining rural settlements, it is not possible to avoid the use of the term „community", which generally implies that a group of people, usually though not necessarily associated in geographical location, has a feeling of common interest, purpose and identity (Cater, 1990). Underlying this argument is one of the earliest classifications of 'urban' and 'rural' propounded by German geographer, Ferdinand Tonnies who argued that at the urban extreme was what he called the *'Gesellschaft'* and at the rural extreme the *'Gemeinschaft'*. Unlike urban settlements, in traditional rural communities there is much interaction between individuals, a distinct nucleus centred on the village, involvement in village-based activities, a heightened local awareness and a sense of belonging and shared attitudes (Nagle, 2000).

2.3.2 Urbanization

Urbanization is the result of three main factors, namely, natural increase, migration and the reclassification of rural settlements (Jones and Visaria, 1997; Nagle, 2000; Pacione, 2005). However, the relationship among the three factors in channelling population towards urban areas is not simple and straightforward. Thus Jones and Visaria (1997: 9) note that when village populations grow and increasingly engage in non-farm activities, their classification has to change, but the pace of reclassification tends to vary over time and space, and leads to some fluctuations in the trend towards urbanization. Urbanization is accounted for by the demographic transition model illustrated in Figure 2.2 below. It describes the stages of population change that come with industrialization and urbanization (Pacione, 2005; Nagle, 2000).

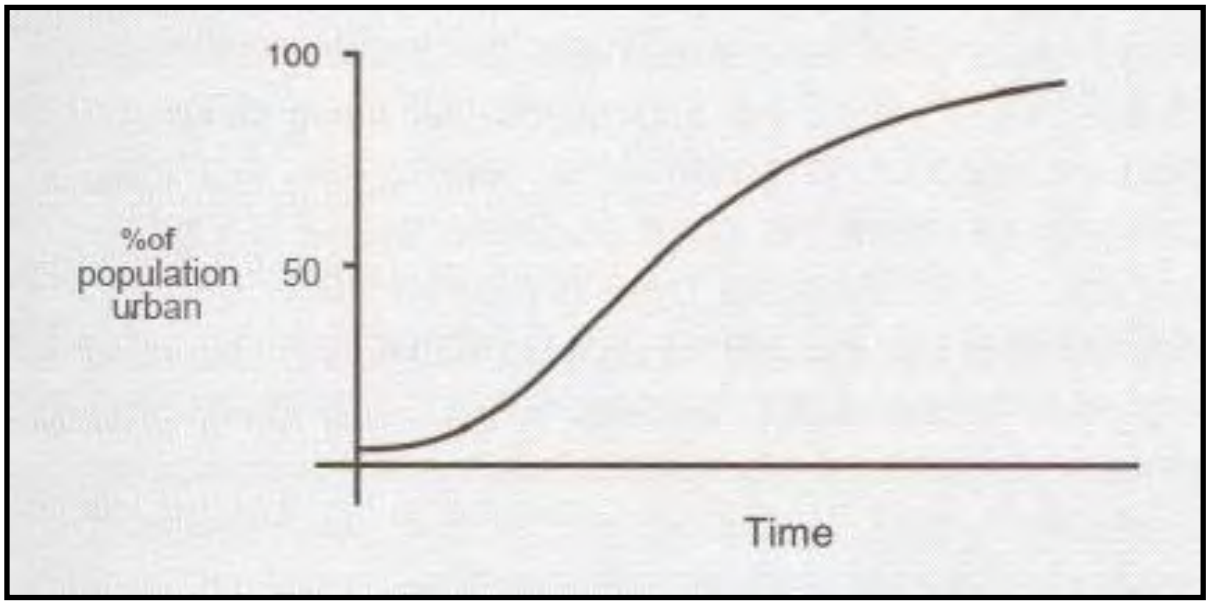
Figure 2. 2: The demographic transition model



Source: Pacione (2005: 75)

The model is centred on four stages of urbanization that are tied to levels of economic development in different countries. The first stage reflects the conditions of a pre-industrial society and some developing countries in the present day, where urbanization is characterized by high birth and death rates, leading to fluctuating population growth determined more by mortality than by fertility (Pacione, 2005). As such urbanization is characterised by very slow growth with most people employed in agriculture (Nagle, 2000). The second stage reflects a situation wherein rates of urbanization are high because of rural to urban migration due to economic development in cities. During this stage death rates fall owing to general improvements in public health and advancements in medicine, whilst birth rates remain high. The third stage is characterized by the majority of the population staying in urban areas and earning a living from employment in the manufacturing and service sectors of the economy. During this stage of demographic transition, birth rates fall to the level of death rates; as such the rate of population growth slows down (Pacione, 2005). In the fourth and final stage of demographic transition, the stage most developed countries are in at present, birth and death rates are so low that population growth is close to zero. This stage is also characterized by the migration of part of the population to rural areas (counterurbanization). The rates of urbanization associated with each stage are shown in Figure 2.3, which depicts the urbanization curve adopted from Pacione (*ibid*).

Figure 2. 3: The urbanization curve



Source: Pacione (2005: 82)

From the models of urbanization it can be discerned that there is a clear link between the rate of industrialization and urbanization. Thus, much of urbanization in the developing world can be regarded as premature urbanization, i.e., people that migrate to urban areas without sufficient skills to effectively compete for employment in the formal urban sector (Geyer, 1989 *cited* in Geyer, 2002: 40).

2.3.3 Urban Growth

As with urbanization, urban growth is the effect of natural increase, the reclassification of urban areas and net in-migration to urban areas. Thus the rate of urban growth is closely associated with the urbanization stages reflected in the demographic transition model. However, urban growth does not occur in settlements of similar sizes. As such urban centres are distributed along a continuum from small towns with several thousand people to giant cities with populations of tens of millions (Pacione, 2005).

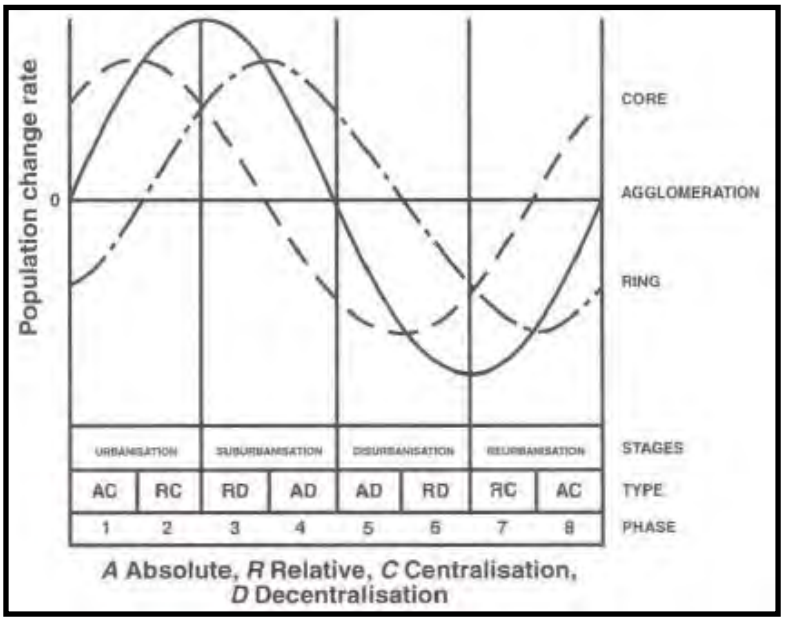
Various theories have been put forward to account for the pattern of growth of urban settlements. One of the first theories was the rank size rule. However, this thesis has been discredited as in some instances a single city dominates the entire urban hierarchy and is far bigger than the next urban centre (Nagle, 2000). This being the case a two phased model of urban growth, namely the primacy and small city phase, was put forward to explain urban growth. The urban primacy phase depicts a situation where a primate city dominates the urban system in terms of population size, housing,

government activity, offices, services and employment (Nagle, 2000). This is the situation prevalent during the early stages of urbanization. Urban growth can be divided into three main stages, namely, early primate city, intermediate primate city and advanced primate city stage (Pacione, 2005). At the completion of these stages the primate city develops a number of suburban nodes concomitantly with certain intermediate size towns; and the primate city becomes so large and synonymous with the problems of congestion and diseconomies that it develops a multi-centred or megalopolitan character owing to intraregional decentralization (Pacione, 2005; Geyer, 2002).

The second phase, the small city phase, is a continuation of the third phase of the urban primate phase. It not only marks the end of the first cycle of urban development, but the beginning of a new one which follows the sequence of major metropolitan, intermediate-size city, and small city growth (Pacione, 2005). According to Pacione, large urban centres able to retain their dominant position in the national and international urban hierarchy, along with a limited group of rapidly growing intermediate-size urban areas from the first cycle, will constitute the new set of major metropolitan centres. At this stage, spatially, the economy has become highly integrated with certain secondary and tertiary centres growing faster than primate cities (Geyer, 2002: 9). Therefore, Geyer notes that the second phase is associated with the notion of polarization reversal and counterurbanization terms developed by Richardson (1977, 1980) and Beal (1977) respectively.

The two phases of urban growth described above, namely, the primate and small city phases explain urban growth in the broader regional or national spatial framework without necessarily explaining urban growth within individual urban centres. Models have been proposed to explain the growth patterns of individual urban centres, such as the cycle urbanization model developed by KIaassen *et al* (1981) and van den Berg *et al* (1982). This model is shown in Figure 2.4 below.

Figure 2. 4: The stages of urban development model



Source: Pacione (2005: 83)

According to Pacione (2005) the model envisages four stages of urban growth within urban centres namely:

- *urbanization:* where certain settlements grow at the cost of their surrounding countryside;
- *suburbanization* or *exurbazisation:* where the urban ring (commuter belt) grows at the cost of the urban core (physically built-up city);
- *disurbanization* or *counterurbanization:* where the population loss of the urban core exceeds the population gain of the ring, resulting in the agglomeration losing population overall; and
- *reurbanization:* where either the rate of population loss of the core tapers off, or the core starts regaining population with the ring still losing population (Pacione, 2005)

Furthermore Pacione notes that the manifestations of this model of urban growth vary in space and time. Any study of urban growth and urbanization therefore needs to come up with preconceived ideas on what can be termed urban in different areas of the world (Champion, 2002). The implications of the differential rates of urbanization and the scale of urban growth among different urban centres in one or different countries is that it possible to identify different types of urbanized

regions exhibiting different characteristics in the world. These are the city region, conurbation, the urban field, the megalopolis and the ecumenopolis (Pacione, 2005). Such regions have the following characteristics as described by Pacione (2005: 56):

- *The city-region* - This is an area focused on the major employment centre in a region and encompassing the surrounding areas, for which it acts as the primary high-order service centre.
- *Conurbation* - This is the term coined in 1915 by Geddes to describe a built-up area created by the coalescence of once-separate urban settlements.
- *The urban field* - This is a unit, similar to the term „conurbation", used in the USA. An urban field is generally regarded as a core urban area and hinterland with a population of at least 300,000, with an outer limit of two hours' driving time. Defined in this manner, urban fields range in population size from 500,000 to 20 million and cover one-third of the USA and 90% of the national population.
- *Megalopolis* - This is the term introduced by Gottmann in 1961 to describe the urbanized areas of the north-eastern seaboard of the USA encompassing a population of 40 million, oriented around the major cities of Boston, New York, Philadelphia, Baltimore and Washington DC. Gottmann subsequently defined a megalopolitan urban system as an urban unit with a minimum population of 25 million.
- *Ecumenopolis* - This is the term employed by Doxiades in 1968 to describe a projected urbanized world or universal city by the end of the twenty-first century. Although highly speculative, the ecumenopolis concept does focus attention on the potential consequences of unrestrained urban growth and underlines the importance that is currently being attached to the concept of sustainable urban development.

2.3.4 Migration

In as much as it is useful to demarcate the characteristics of rural and urban areas as differences in culture and social relationships, the only theory that has been developed suggests that 'urbanism' is the result of concentrated population (Cross, 1979). Thus, this is not a theory of *how* populations came to be concentrated, and cannot be a theory of urbanization; it is a theory which is dependent on correlations between social phenomena and spatial variables (*ibid*). Thus an analysis of settlements based on demographic criteria alone fails to account for the differential distribution of population between and within rural and urban areas. As such Cross (1979) argues that, in order to understand urbanization, urban growth and urbanism, the inequalities and divisions *between* city and countryside have to be understood. The distribution of the population both within and between cities, regions and nations is further influenced by patterns of migration (Thorns, 2002: 42). Thus, Thorns argues that when it comes to migration, it is not only important to consider rural to urban movement but also urban to rural, international and urban to urban and rural to rural movement push and pull factors.

Although it is difficult to come up with a precise definition of migration, there are five key components of the generally agreed definition of migration, namely, migration over space, migration over time, migration and spatial networks, migration and culture and migration and motivation (Boyle *et al*, 1998). As such in relation to the human population migration commonly refers to a wide array of movement patterns restricted to the 'permanent' or 'semi-permanent' movement of households and individuals (sometimes also within a defined time period), and 'labour migration' refers to the periodic movement of individuals (also during a defined period, where applicable) (Kok *et al*, 2003) with a complete change in community ties (Nagle, 2000).

To capture the varied and dialectical push and pull factors of migration Massey (2002) advanced a synthetic theory of migration. He combines economic, social, cultural and institutional factors that affect the various types of migration, ranging from local to international. The theory is a combination of theories of migration, namely, classic economic, neo-classic economic, new economic, segmented labour market, world systems, values expectancy and residential satisfaction theories of migration.

2.3.4.1 Classic theories of migration

Classic economic theories of migration date back to the 1880s when Ravenstein first proposed his laws of migration. He posited that migrants move from areas of low opportunity to areas of high opportunity (Oberai and Singh, 1983). Classic economic theories of migration saw migration as a response by individuals to place differences in job opportunities and wage rates (Pacione, 2005). More sophisticated versions of these models led to the formulation of classical 'push-pull' models of migration which view migration as the result of the interaction of four primary pressures, one of which acts to attract (or 'pull') migrants to cities, the second of which acts to push labour off the land, the third to draw migrants back to the land, and the fourth, to actively to push them out of urban areas (Dewar *et al*, 1982). Therefore according to classic economic theories concentration of population, which translates into urbanization, urbanism and urban growth, is a result of economic forces attracting people to certain places.

2.3.4.2 Neo-classical economic theories of migration

In contrast with the classical economic perspective, the neo-classical economic perspective represents migration as a process in which individuals make a rational economic choice based on the current or likely future benefits of a move (Pacione, 2005). This perspective was put forward by Todaro in the 1970s. Massey (2006) argues that this is because wages are generally higher in urban than in rural areas, especially in the developing world. Therefore urbanization, urbanism and urban

growth, according to the neo-classic economic perspective, are a result of rational economic decisions by individuals based on differential wages between rural and urban areas.

As such the key variables used in testing these theories include expected income which is defined as the probability of employment (i.e. one minus the unemployment rate) multiplied by the mean income of the economic sector a rational actor may contemplate working in (Massey *et al,* 1994:701, cited in Kok *et al*, 2003) and the net gain from migration, 'the difference between incomes expected at origin and destination, when summed and discounted over some time horizon and added to the negative costs of movement' (Massey *et al,* 1994:701, cited in Kok *et al*, 2003).

2.3.4.3 The new economics of labour migration

The neo-classic economic model is criticized largely from the new economics of labour migration perspective that was put forward by Stark in the early 1990s. At the core of the new economics of labour migration perspective is the argument that migration decisions are seldom taken by isolated individuals (an assumption central to the micro-economic perspective), but rather in the context of household 'risk minimization' (instead of the notion of individual 'income maximization' as proposed by neo-classical economics) (Kok *et al,* 2003; Massey, 2006). Thus it is not only wage differentials alone that determine migration, but rather socio-economic factors within the household set up are important.

2.3.4.4 Segmented labour market theory

The segmented labour market theory argues that the burification of the labour market in most global cities in the developed countries gives migration another dimension different from the new economics of labour migration. The concentration of relatively highly paid managerial and technical workers in global cities gives rise to the demand of low paid service workers which are mostly drawn from the developing countries. The problem with the theory, however, is to verify it empirically since the model argues that migration is driven by conditions of labour demand rather supply, meaning that explanatory power comes from receiving regions rather than sending regions (Massey, 2006).

2.3.4.5 World systems theory

In contrast with the above-mentioned theories, the world systems theory of migration argues that the penetration of capitalist economic relations into peripheral non-capitalist economies creates a mobile population that is prone to migrate as a result of the disruptions and dislocations that accompany

capitalist expansion (Kok *et al*, 2003). Due to these disruption people in peripheral regions in turn migrate to the core areas.

2.3.4.6 Economic factors that perpetuate migration

The neo-classic economic, new economics of labour migration, segmented labour market and the world systems theory perspectives are economic theoretical accounts of migration. However, there are also economic factors that perpetuate migration in the sense that once migration has started it seems to be perpetuated indefinitely; these factors are captured by the institutional, social capital and cumulative causation theories (Kok *et al,* 2003).

2.3.4.7 Critique of economic theories of migration

Economic perspectives of migration imply that migration is an outcome of economic forces alone. However, the main shortfall of these perspectives is that migration can become an independent variable which not only regulates other societal change but ultimately controls itself (Skeldon, 1990:132 cited in Kok *et al*, 2003). In the face of major, and increasing, economic inequalities in the world, many backward regions still do not provide any migrants (Gelderblom, 2006). Although economic motives appear to be a major causative factor in migration, they are unable to explain migration decision-making on the whole (Fan and Huang, 1998; Kok *et al,* 2003). Accordingly, a number of non-economic theories that account for migration have been put forward; notable among these is the value expectancy and residential satisfaction models. Furthermore, there are also non-economic factors which perpetuate migration once it has been initiated either as a result of economic or non-economic forces.

2.3.4.8 The value expectancy model of migration

The value expectancy model argues that there is apparently no strong link between micro, meso and macro-level factors (such as economic factors) and the migration resolution. As such there is a focus on the micro-level factors as the starting point. It notes that the families or households should be treated as a unit, with separate analyses for the movement of individual members (e.g. single-adult siblings) and family units focusing on their goals (values or objectives) and expectancies (subjective probabilities) (Kok *et al*, 2003; Gelderblom, 2006). It also further notes that migration behaviour is not governed by motivational factors alone; it is also constrained or facilitated by environmental and cultural factors, hence the need to integrate multi-level determinants (i.e. socio-cultural, demographic, personal and economic factors) with the value-expectancy model of migration decision-making (*ibid*).

2.3.4.9 Residential-satisfaction model of migration

The residential satisfaction model emanates from Rossi‟s (1995) seminal work titled *Why Families Move.* Rossi argued that mobility arose out of five family reasons namely: the creation of new households, the circulation of existing households, mortality, households‟ dissolution, and moves related to work (Boyle *et al,* 1998). Rossi argued that movement stimulated by work, divorce and the death of a household member were less important than that stimulated by the existing family searching for different housing (ibid). Thus social mobility aspirations may lead to residential mobility when the current residential location is seen as inconsistent with a new social status (Kok *et al*, 2003; Boyle *et al,* 1998).

2.3.4.10 Non-economic factors that perpetuate migration

As much as there are non-economic factors that determine migration decisions as alluded to by the value expectancy and the residential-satisfaction model, there also non-economic factors that perpetuate migration once it has already started. These are captured by the social network and capital models which also acknowledge that the existence of friends or relatives in particular destinations plays a crucial role in decisions to move. The presence of family and friends at a distant location encourages and directs migration through increasing the potential migrant's awareness of conditions and opportunities there (De Jong and Fawcett 1981: 31-2, cited in Kok *et al*, 2003).

2.4 Settlement morphology

Settlement morphology is the expression of the physical form of people‟s activities in enhancing their social and economic functions on the earth‟s surface in the quest for sustenance. The morphology of settlements can be operationalized by further dividing it into two terms, namely, rural settlement morphology and urban settlement morphology. Rural settlements are characterized by large tracts of farmland and forestry and a relatively dispersed density of buildings, whilst urban settlements are characterized by the existence of high rise buildings, systematically arranged buildings, delineated residential zones and relatively high building densities (Hagget *et al*, 1977; Cater, 1990; Nagle, 2000).

2.4.1 Rural settlement morphology

According to Cater (1990) and Nagle (2000), the morphology of rural settlements is captured by three aspects, namely, typology, pattern (spatial organization) and the form (shape) of the rural settlement. The typology of a rural settlement appreciates that there is a continuum of rural settlements from a single building or dwelling to a village made up of an agglomeration of dwellings.

Pattern or spatial organization captures the density of dwellings or building structures in a typology and as such it is either nucleated or dispersed. The form of a rural settlement focuses on the shape that the buildings in a typology are arranged in; it can be linear or curvilinear.

To date, two main theories have been developed to account for rural settlement morphology. The first was developed by the German scholar Meitzen in the 19th century and the second by Albert Demangeon in 1928 as a critique of Meitzen‟s theory (Cater, 1990; Nagle, 2000; De Blij *et al*, 2007). At the centre of Meitzen‟s theory is the argument that cultural factors are the key determinants of rural settlement morphology. This was based on his observation that Celtic traditions in the 19th century were characterized by isolated homesteads on farms whilst Germanic traditions were characterized by homesteads clustered in villages. However, Meitzen‟s thesis was criticized on the basis of its overreliance on culture as the sole variable influencing the morphology of rural settlements. Cater (1990) points to the fact that French geographer, Albert Demangeon, provided an alternative rural settlement morphology in 1928. This is not only based on Meitzen‟s cultural determinants but also on environmental determinants. As such Demangeon identified four morphological types of rural settlements, namely:

- Primary dispersion of ancient origin - Acknowledgement of Meitzen‟s Celtic grouping.
- Intercalated dispersion - This is where there is a mixture of villages and single farms with the farms intercalated or set in between.
- Secondary dispersal - In this case, due to economic and social change, an originally agglomerated settlement has been broken up, leaving a pattern of single farms.
- Recent primary dispersion - This was particularly associated with the more recent colonization of less favoured terrain or occupation of new territories.

(Cater, 1990: 22)

It can be discerned from Meitzen‟s cultural conceptualization of rural settlement morphology that was modified by Demangeon to include environmental factors that rural settlement morphology depends on in the socio-economic and cultural context. This is facilitated by the addition by Demangeon of secondary and primary dispersal factors impacting rural settlement morphology due to socio-economic changes and the exploitation of virgin resources. In as much as this theorization of rural settlement morphology is based on Western experiences it is versatile in that it takes spatial and temporal variables into account by taking into cognisance the natural resources available and socio-economic changes over time. It is therefore invaluable in any given context, be it Western or non-Western.

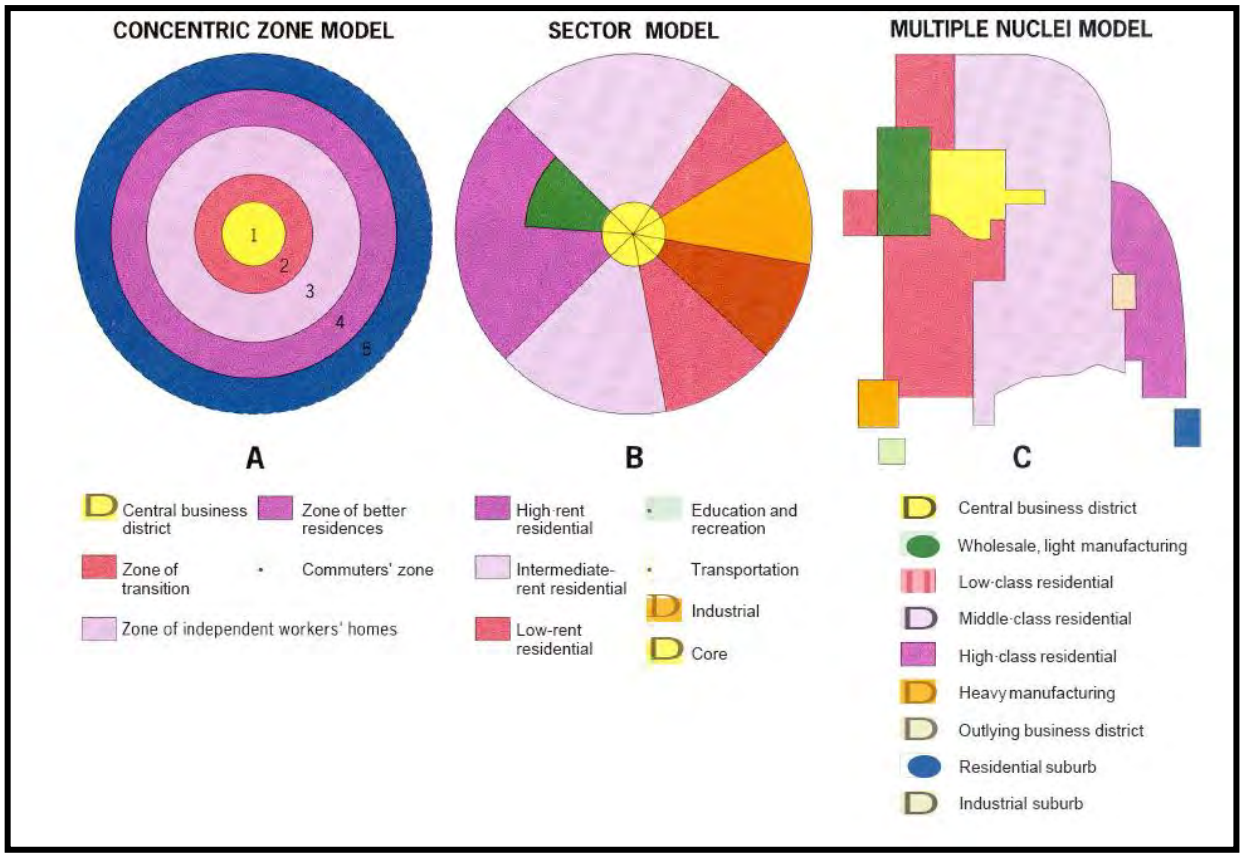
2.4.2 The morphology of urban settlements

Morphologically, urban settlements are characterized by commercial areas, industrial zones, and densely packed housing (Nagle, 2000). One of the earliest attempts to explain the internal structure of urban areas is the bid rent theory. This argues that the physical structure of cities is determined by competition for the most strategic locations within a city by different land uses in terms of accessibility to public transport (Hagget *et al,* 1977; Kaplan *et al,* 2004; De Blij *et al*, 2007). Therefore the most profitable land uses will occupy the most privileged locations within a city with the least profitable occupying the least privileged. Land values decrease from the city centre going outwards in similar fashion to the way accessibility decreases. The land at the city centre becomes the preserve of commercial use which is the most profitable; outside the city centre it is industrial and the remainder of the land is for residential use.

In as much as the bid rent theory captures the effect of land price on the morphology of urban settlements, it is a static theory in that it fails to capture developments in public transport which make areas on the edges of towns more accessible; a development, which in turn, made suburbanization a possible. Thus the model completely disregards the historical nature of the urban areas and can be said to contradict itself by using a current mechanism to try to explain an entity that has been produced over time (Pumain, 2000). Hence the theory fails to capture the fluidity of urban areas‟ morphology and changing patterns over time.

Due to this shortcoming, dynamic historical models of urban morphology were put forward to explain the structure of urban areas. These models were developed in the 1920s and 1930s by the „Chicago School‟ of urban studies (under the guidance of Robert Park, Ernest Burgess and Lous Wirth, in particular) (Murray, 2004). These models are shown in Figure 2.5 below, adopted from De Blij *et al*, (2007).

Figure 2. 5: Ecological Models of urban form



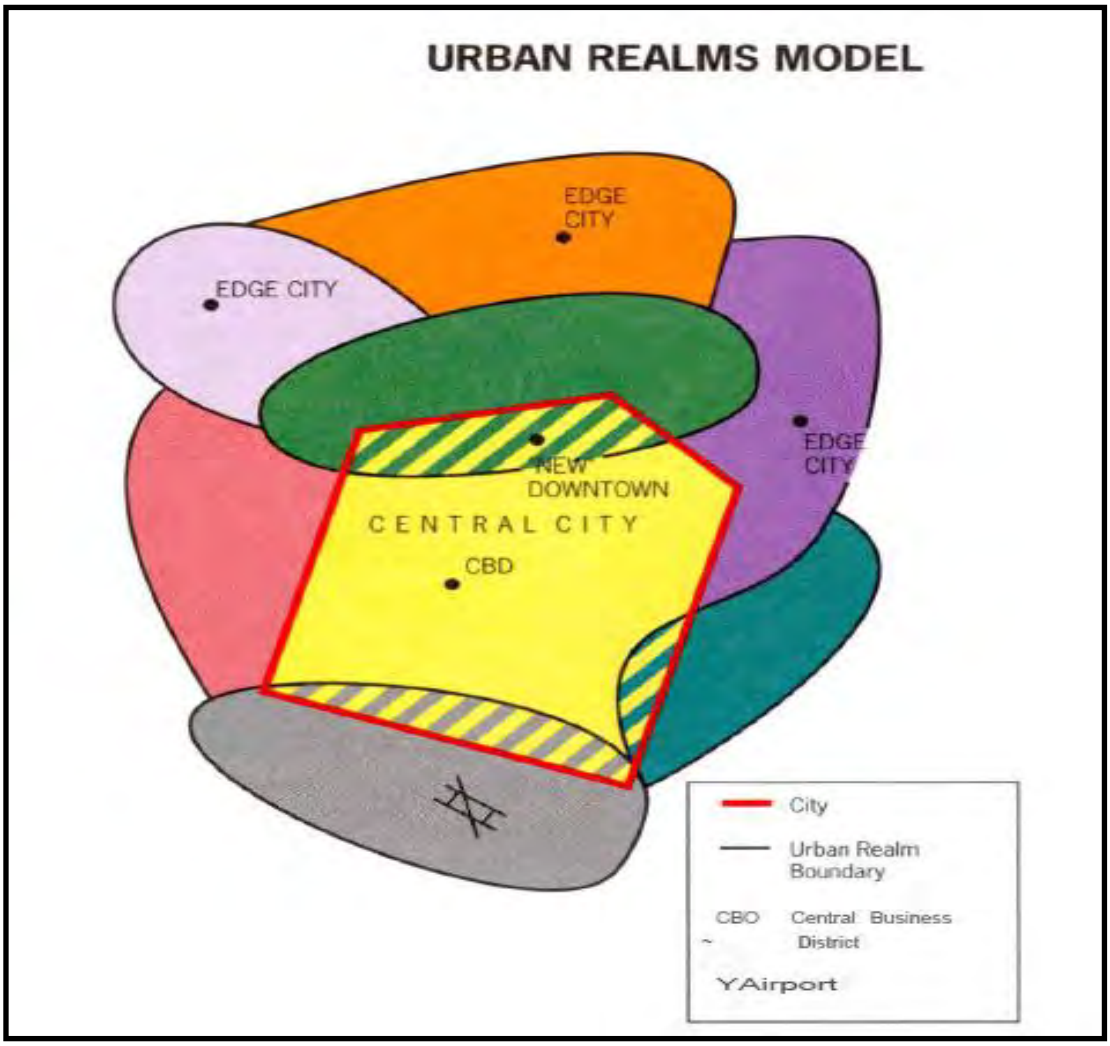
Source: De Blij *et al* (2007: 277)

The models adopted a human ecology approach:

> arguing that processes underlying the spatial configuration of industrial cities were similar to those found in nature since competition for land uses for space resulted in the invasion of the most desirable parts of a city and eventually the replacement of existing land uses with a more dominant activity (as in the expansion of the central business district (CBD) into the surrounding transition zone) (Pacione, 2005: 140).

It is widely acknowledged that the three ecological models of urban morphology, the concentric, sector and multiple nuclei, reflect the structuring elements of most Western cities (Hagget, 1977; Kaplan *et al*, 2004; Pacione, 2005). However, Nagle (2000) points to the fact that most urban geographers regard these models are too simplistic to describe the modern city. With the availability of personal automobiles and the construction of ring roads and other arteries around cities in the 1970s and 1980s, suburbanization exploded around the new transportation corridors. In this regard Vance 1964 advanced an urban realms model to describe a modern day metropolis made up of separate economic, social, and political entities linked to form a larger metropolitan framework (De Blij, 2007). This is reflected in Figure 2.6 below.

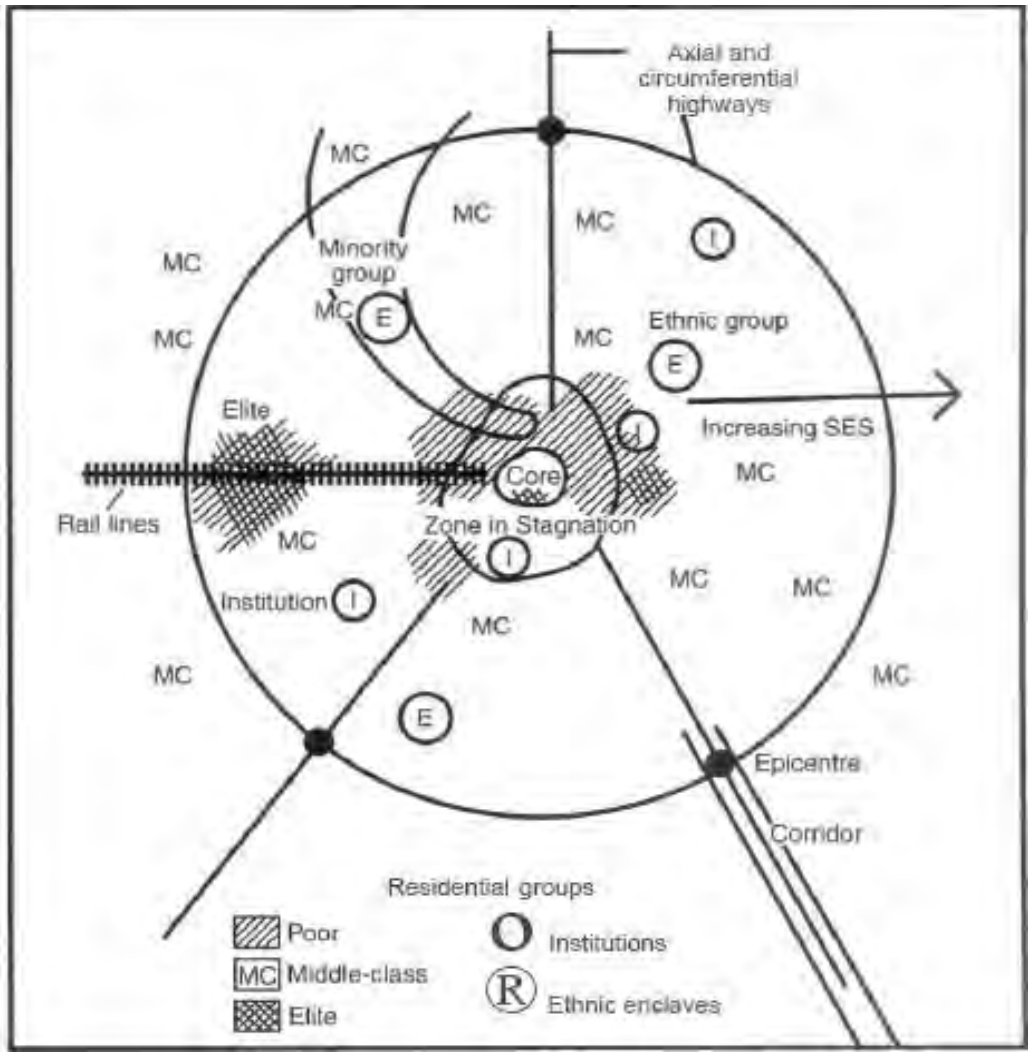
Figure 2. 6: Urban realms model



Source: De Blij *et al* (2007: 279)

While the classical human ecology models were inadequate in reflecting the form of the late 20th century modern city, the urban reams model also failed to sufficiently capture the changes that had taken place to the modern city form in the 21st century. This is largely due to the deindustrialization of the urban economy, the emergence of a service economy, the dominance of the automobile, a decrease in family size, suburban residential developments, decentralization of business and industry, and increased intervention by government in the process of urban growth (Pacione 2005: 148). Thus in 1987 White proposed a model for cities in the 21st century. The spatial structure of cities in the 21st century is made up of a CBD which remains the main focus of the metropolis; pockets of poverty and minorities; middle class residential areas; industrial anchors and public sector zones (industrial parks, universities, Research and Development (R&D) centres and peripheral epicentres (Thorns, 2002; Pacione, 2005). This model is shown in Figure 2.7 below.

Figure 2. 7: White's model of the twenty-first century city



Source: Pacione (2005: 149)

It is widely acknowledged that the human ecology-inspired models of urban morphology provide insights into the changing spatial structure of cities, even though they fail to pay sufficient attention to the processes underlying spatial patterns (Thorns, 2002; Pacione, 2005). Thorns (2004) points out that this is due to the fact that the ecological explanation of urban morphology is underpinned by biology and market forces‟ determination of social change, which is thus denuded of the power of human agency. As such he argues that the idea of invasion and succession was portrayed as key to the promotion of stability and social order in the city, as stability followed the rise of a new form of local domination which was secured until the next wave of change, either in land use or population, took place, creating in turn some short-term instability. Furthermore, Thorns notes that for human ecologists the city was largely shaped by developments in transportation systems from the horse drawn cart to the private car, as well as infrastructure and services such as patterns of water

reticulation, electricity, gas supply and waste removal. In this regard it should be noted that human ecologists downplayed the role of actors such as private interest groups and government officials such as town planners in the location and allocation of land uses within cities. Aptly, Pacione (2005: 50) argues that:

> ...ecological models were criticised for their positivist basis in neoclassical economies for viewing humans as rational decision-makers operating in an abstract environment; retaining the myth of value-free research while legitimising market capitalism and retention of the socio-economic status quo; and devoid of ethical content since questions of equity and fairness of social conditions and resource allocation were excluded.

The shortcomings of human ecology-inspired models of urban spatial structure can be extended to the theories of rural settlement morphology noted earlier and advanced by Meitzen and Demangeon. They also fail to illuminate the underlying causes of rural settlement morphology as they concentrate on cultural and environmental factors and negate the role of local interest groups and social agency in shaping the built environment. Explanations for the underlying factors of settlement morphology are provided by the urban managerialist paradigm, urban political economy and the post-structural school of thought.

2.4.3 The urban managerialism paradigm

The urban managerialist paradigm emerged in the 20th century as a critique of Karl Marx and Fredrick Engel‟s economic determinism theory. In their analysis of early capitalism Marx and Engels argued that the economic base determines the superstructure. Thus, according to their thesis those with economic power are able to determine everything that happens in society, from politics to religion (Haralambos and Holborn, 1990; Ritzer, 1996). Likewise, in Marx and Engels‟ thesis the built environment is not exempt from the economic base of capitalist societies. Their evidence to support this argument was the spatial separation of the two main classes engaged in capitalist production, namely, the owners of production and the workers in the industrial city; the spatial structure of the industrial city was therefore represented by the bid rent theory since the most profitable land uses occupied the most privileged land uses within the city.

However, Marx and Engels‟s thesis in general was criticized for not taking into account the various forms of power that can influence what happens in society, including the economy itself. Likewise, it failed to recognize that the spatial structure of cities can be a product of other forms of power besides economic power. To remedy these shortcomings, the urban managerialist paradigm emerged in the 1970s drawing on the work of Max Weber on power and rationality in modern societies. Weber identified three forms of power, namely, traditional, charismatic and rational power. At the centre of

Weber‟s work was the argument that the ability of individuals to impose their will on others based on these forms of power varied across time and space. In Weber‟s work traditional authority was viewed as more relevant in traditional pre-industrial societies where spiritual or religious leaders had their domains; charismatic power was predominant during periods of political transition and rational power was synonymous with modern bureaucracies wherein authority was underlined by the technical skills of office bearers (Ritzer, 1996; Haralambos and Holborn, 1990). Urban managerialists in turn argued that the built environment is the result of conflicts in the past and present between those with different degrees of power in society (Williams, 1978).

The urban managerialists concentrated on rational power that was prevalent in modern bureaucracies to argue that key resources such as land, capital in its various forms (human, social, cultural), the built environment (housing, and industrial and commercial buildings) and social resources (transport, education, health and recreation) were allocated and distributed by political and bureaucratic processes (Thorns, 2002; Williams, 1978). According to Thorns, this was based on a study by Rex and Moore who analyzed the changing patterns of housing allocation within the inner areas of Birmingham, UK (1967). The study revealed that the allocation of housing in this area was crucially affected by the workings of the housing market and the rules of allocation practised by public housing authorities. Thorns also further notes that urban managerialists showed that the distribution of urban resources such as libraries, playing fields, community centres, shops, and bus services was not evenly spread across the urban area, but was unequally distributed because of the interplay of power within local political systems which involved planners and policy-makers and private-sector actors such as bankers, real estate interests, property owners, landlords and local business owners.

Thus the urban managerialist paradigm showed that there are urban gatekeepers who have more power than individual choice and market forces in the location and allocation of resources in urban areas. However, it failed to address the structure of power in urban areas, where managers are at the frontline; furthermore, the managerialist paradigm did not reveal who was managing the managers or the gatekeepers (Thorns, 2002). Thus the key criticism of the managerialist school of thought emanated from urban political economists who argued that the perspective inflated the autonomy and power of urban managers and ignored the broader socio-economic processes, which constrained the decision-making of urban managers (*ibid*).

2.4.4 The urban political economy paradigm

The urban political economists drew on classical Marxist economic determinism‟s conceptualization of capitalist societies wherein the economic base was viewed as influencing the superstructure, to critique the urban managerialist paradigm. According to Thorns (2002) there are two groups of scholars operating within this Marxian tradition. The first mainly entails the work of Castells (1977b) and Harvey (1973, 1989, 1990), whose starting point is criticizing the work by the ecologists and managerialists which they saw as at best descriptive and, at worst, ideologically obscuring rather than illuminating the economic and social forces which shape the city and urban social life. The second group of urban political economists consists of scholars influenced by the French Regulation School, who influenced and developed analyses based around a model of regimes of accumulation and modes of social regulation.

The starting point for urban political economists such as Castells and Harvey was that if the city is viewed as a market where labour, power, capital and other products are exchanged, then it should be governed by the laws of capital accumulation (Lamarche, 1976: 86 cited in Pacione, 2006). They identified four main spheres within capitalist social formations which were identified by Marx as crucial to the social formation of capitalism, which they argued were influential in shaping the built environment, namely, production, circulation, consumption and exchange (Thorns, 2002). Therefore according to these scholars, the city form in advanced capitalist economies is commensurate with the fundamental capitalist goal of accumulation through concentrating the means of production through agglomeration, and developing an infrastructure that facilitates the geographical transfer of profits in search of optimum investment opportunities (Pacione, 2005).

The circulation of capital is central to matching the urban built environment to capitalism‟s goal of capital accumulation. Harvey (1978) identifies three circuits of capital that are crucial to the development of the urban built environment; the primary, secondary and tertiary circuits. The primary circuit of capital is the production process which generates profits which may be reinvested within the circuit with a view to making even more profits. Alternatively, if over production occurs, the profits may be invested in the secondary or tertiary circuits (Harvey, 1989). The secondary circuit entails investments in fixed capital, such as the built environment in the anticipation of realising profits in the form of rental income from the use value of the building; or from its enhanced future exchange value. The third sector is dominated by state investment in activities that improve the long term productivity of labour such as health and education; areas in which individual entrepreneurs are unlikely to invest.

However, it should be noted that there is a limit to the process of capital transfer from the primary to the secondary circuits as there is a limit to which the market can absorb a number of office buildings or leisure centres. This means that at a certain point, investments become unproductive, reducing the exchange value of capital invested in the built environment, or in some instances resulting in its complete loss (Pacione, 2005). Therefore the concepts of legitimation and contradiction have been invoked to denote the regulation and catastrophes inherent in capitalism that manifest themselves in the built environment.

Legitimation denotes the role of the state in facilitating capitalist development in urban areas through planning laws and government incentives and support for development (Thorns, 2002). Examples include the demarcation of special zones to create favourable conditions for businesses to establish new ventures, such as in the recently created China Special Economic Areas such as Pudong in Shanghai and incentive grants and tax write-offs. 'Brown site' redevelopments such as at Homebush, the Sydney 2000 Olympic site, have also been undertaken with the aid of government grants (Searle and Bounds 1999, cited in Thorns, 2002). However, there is a contradiction between the capitalist dynamic of accumulation (provoking urban growth and change) and the inertia of the built environment (which resists urban change) (Pacione, 2005).

The second group of urban political economy theorists is inspired by the work of French neo-Marxists working within the regulation theory school of thought. Regulation theory is preoccupied with analyzing crises of accumulation in capitalism and the ways of mitigating these crises. Thus regulation theorists such as Aglietta separate the 'mode of accumulation' from the 'mode of regulation' and argue that capitalism requires the generation of social mechanisms to ensure social stability during periods of accumulation (Thorns, 2002). However, as Thorns notes, accumulation regime crises in economic, social and political structures require a new form of economic and social regulation. Thorns (2002) observes that most regulationists argue, that during the 1970s and 1980s, there was a period of crisis due to over-production which led to a decline in profits and a rise in unemployment; restructuring was necessary to restore profitability.

Urban political economists working within the regulation school of thought argue that restructuring requires both an analysis of economic activities such as the shift to financial and consumer services and the knowledge economy and a spatial analysis, as the de-industrialization of urban regions and the displacement of activities from one area of the globe to another have had major implications for urban growth and decline (Bluestone and Harrison, 1986; Cooke, 1989; Zukin, 1991; cited in Thorns,

2002). However, one needs to bear in mind that there is no agreement on whether a new regime of accumulation and regulation is now in place or will be put in place. What is certain is the fact that mass production is dwindling and we are entering a phase of flexible production (*ibid*).

The strength of urban political economy theory in explaining urban form lies in the fact that it illuminates the main processes and agents responsible for the production of the built environment of the capitalist city (Pacione, 2005). Furthermore it affords valuable insights into the roles and relationships among various factions of capital in influencing urban change, highlighting the impact that economic and political processes located outside the territory of any particular city have on its internal structure and development (*ibid*).

However, the perspective has its shortcomings. It fails to acknowledge the role of individuals, political mediations and the diversity of experiences in cities across the globe in the production and reproduction of the built environment form because of its overemphasis on the material structures (Pacione, 2005; Thorns, 2002). This is regardless of the fact that urban political economists operating within the regulation school of thought consider the role of social and political forces in shaping certain patterns of accumulation in cities. The theory‟s core remains wage relations and the imbalance of power between those who own and control the means of production and those who must work for wages, a notion which excludes various actors such as those in the informal sector and civil society in shaping the built environment form (Pacione, 2005; Thorns, 2002). Furthermore, Thorns (2002: 38) argues that:

> The very breakdown in the coherent set of social and political relations that regulationists have drawn attention to as part of the 'crisis' also released a whole set of other social forces of change, for example, ethnicity, gender, peace, environmentalism, that have also provided alternative sources of social mobilisation contributing to the more fragmentary nature of social and political relations towards the end of the twentieth century.

In this regard the urban political economy theory failed to acknowledge the different role players in shaping the built environment. Specifically it failed to acknowledge the role of individual agency in influencing decisions in society, as the cornerstone of the political economy school of thought is the hegemonic tendencies of the dominant mode of capitalist production. The main shortcoming of the urban political economy paradigm, just like its predecessors, the Chicago School, Classical Marxism and urban managerialism, it that it is a metanarrative explanation of the underlying forces of the spatial structure of settlements. It overemphasizes the role of dominant ideologies, particularly capitalism, in shaping the built environment, negating differences across time and space as well as the role of dialectical interactions among the various interest groups in society. In response to these

shortcomings, post-structural and postmodern theory emerged to capture the changing morphological characteristics of urban landscapes, and in particular the use, management and regulation of urban space (Murray, 2004).

2.4.5 Post-structural and Post-modern school of thought

According to Thorns (2002) the term post-modernism is vague as in some instances it is used to describe a stage in history, whereas on other occasions it is used to describe an analytical method and a cultural expression (Thorns, 2002). As a stage in history it denotes movement away from the modern era of mass production to one dominated by flexible production, largely due the transformation of capitalism due to technological innovation and the restructuring of the economy at the turn of the 20th century. On the other hand, as an analytical method it emphasizes the role of political meditations, local contingencies and path dependencies in bringing about variations in the spatial contours of particular cities (Murray, 2004), embracing a more contextual and contingent set of explanations and rejecting the universal style of explanation favoured within the political economy tradition (Thorns, 2002).

The implications of post-modernism as a stage in history for the spatial structure of settlements are that it led to: a focus on the service sector rather than manufacturing; changes in the social structure that afford greater power and status to professional and technological workers; changes in the knowledge base, with greater emphasis on research and development; greater concern for the impact of technological change; and the advent of advanced information systems and intellectual technology (Pacione, 2005). Consequently, a spatial structure as a distinct urban form is influenced by the fact that social life is more framed around individual taste and experience with the new middle classes separating themselves from the masses, and pursuing a more distinctive lifestyle, creating a new urban ideology (Thorns, 2002).

As an analytical method postmodernism argues that in the same way that the economic and social structure has undergone tremendous change, so too has the epistemological basis of knowledge. As such post-modern built environment epistemology rejects the modern epistemological basis of knowledge, positivism and realism. In the 1950s and 1960s regional and built environment plans were based on empirical facts collected by rigorous, usually quantitative, procedures by objective experts, rather than by politicians and community members (Thorns, 2002). At the centre of realism is that argument that positivism simply serves to maintain the *status quo* as the powerful and dominant groups in society used the notion of value free, empirical research and reason to subjugate

the other groups. Realism points out that there are structures that shape actions and these are to be sought through theoretical endeavour, as they are often concealed beneath the surface (Thorns, 2002). However, post-modernism epistemology rejects both realism and positivism on the basis that they both seek universally valid truths.

Post-modern epistemology, on the other hand, argues that the modern basis of knowledge manifested by positivism and realism is limited in analyzing the social and economic restructuring of the modern era that has occurred since the 1970s. Post-modernism argues that there are no universal explanations of actions and events, but rather a patchwork of explanations and realities. Thus meta-narratives that were created by social scientists are declining in the face of change and the emergence of multiple narratives and more individualized accounts of experience (Thorns, 2002; Hajer, 2002). As such whilst modernists sought classification and generalization, postmodernists collapse these distinctions and view urban society as differentiated and fragmented, emphasizing individuals and their identity (Thorns, 2002). Thus post-modernism views the built environment as symbolic expressions of the values, social behaviour and individual actions of people in a particular locality over time (Pacione, 2005). Accordingly, Pacione (2005) identifies actors who are involved in the dialectical relationship between society and space which, in turn, produces the built environment, namely, rural producers, speculators, developers, builders, households, facilitators (real estate agents and financiers), and local and central government planners and officials who oversee the development process to varying degrees according to the prevailing social formation. As such, from the postmodern perspective the built environment is a product of interactions among these different actors in governance.

In order to avoid homogenizing tendencies that collapse a variety of heterogeneous experiences arising from different historical processes, postmodern analysis is not simply imposed, as part and parcel of the current phase of globalization, on unsuspecting cities „from above" and „from outside" without the active participation of local agents on the ground (Murray, 2004). Thus a postmodern approach calls for a broadening of the scope of inquiry by looking at cities in the global north and south to foster the „creation of genuinely cosmopolitan, post-colonial urban studies" that focus on understanding the diversity of urban experiences" in ordinary cities located around the globe (Dick and Rimmer, 1998; Nijman, 2002; Robinson, 2002; cited in *ibid*, 2002). The starting point for such an approach is to identify and highlight some of the more visible features of postmodern urbanism that have materialized in many cities in the global north and south (Robinson, 2002; cited in Murray, 2004).

2.4.6 Summary of the morphological characteristics of settlements

The physical characteristics of settlements (spatial expression), the settlement morphology, is given effect by the rural-urban divide, as there are settlements that can either be characterized as urban or rural based on their morphology. A basic account of rural settlement morphology is provided by Meitzen and Demangeon, who argue that typology, spatial organization, and the shape of rural settlement is dependent on cultural and environmental variables such as the terrain and natural resources available in a given context. On the other hand, a basic account of urban settlement morphology is provided by the Chicago School, drawing on the ecological principles of natural selection. The various versions of the ecologically inspired models of urban form, namely, the concentric zone model, sector model, multiple nuclei model, and White‟s model of the 21st city draw attention to the fact that the physical structure of urban areas is largely determined by competition among different land uses for the most privileged locations in the urban fabric. However, the rural and urban settlement morphologies fail to take into cognizance the underlying causes behind the spatial expression of settlements. They portray an image of a predetermined spatial expression of settlements and yet there are actors involved in shaping the built environment. It is in this context that classical Marxist theory, in the form of the urban managerialist, the urban political economy and the post-modern paradigms has been used to explain the underlying forces influencing the spatial expression of settlements. At the end of the day however, as has been shown, all the explanations of settlement morphology based on modern theses are limited in that they totalize a phenomenon that varies in space and time depending on local contingencies. As such, the most enterprising analysis comes from post-modernism which pays homage to the existence of multiple discourses in shaping the built environment as well as the development of certain trajectories depending on the context.

2.5 Towards a synthetic theory of settlement patterns and trends

From the above conceptual definition of the term „settlement" it can be discerned that settlements are made up of three interrelated concepts, namely, morphology, population and function. Morphology depicts the physical and spatial manifestation of people‟s occupation of the earth‟s surface. Population depicts the demographic characteristics of people occupying a given area of the earth‟s surface. Function captures the social and economic activities that the population physically occupying a given space of the earth engage in so as to sustain itself. All the aspects of settlements are linked in that settlements can either be classified as urban or rural depending on morphological, functional and population characteristics. Urban settlements, for instance, mainly function as centres of manufacturing and welfare, legal and administrative service provision morphologically manifested

by the systematic arrangement of land uses into zones such as industrial and a CBD with high rise buildings. Consequently, urban areas are also characterized by populations mostly employed in the manufacturing and service sectors, living in relatively high density areas close to their sources of employment. As such, the linkages between settlement function, morphology and population are abundantly clear.

A synthetic theory of analyzing settlement patterns and trends is therefore made up of function, morphology, and the population characteristics of settlements. Settlement function, as has been noted above, can be conceptualized by the central place theory advanced by Walter Christaller (1933) and later modified by Isard and Losch (1954) which views the role of settlements as the provision of centrally located services such as shopping, administrative or legal services to their own and surrounding populations. However, this thesis does not sufficiently capture the role of settlements, as in some cases the role a settlement plays depends on difference, differentiation or heterogeneity. Difference is an appreciation of the fact that the role a settlement plays in some instances is dependent on the natural resource at its disposal, such as minerals or navigable water, hence the existence of mining towns and port cities in some instances. Differentiation denotes the fact that in some cases the role settlements play can be socially, economically or politically engineered by interest groups such as states or business people who may promote certain functions in certain areas of regions. This can be exemplified by the emergence of cities referred to as „global cities" who act as command centres of the world economy in terms of commercial and financial services. Heterogeneity shows that difference and differentiation are not enough in capturing the role of different settlements, as they fail to capture the diverse nature of social and cultural constructs such as gender and ethnic minorities whose diverse socio-economic needs inescapably determine the role a settlement plays, depending on the context.

The morphology of settlements, on the other hand, in the case of rural settlements is captured by the theories of Meitzen (19th century) and Demangeon (1928) whose basis is local culture and natural environmental determinants of the spatial expression of people"s occupation of the earth"s surface. In the case of urban areas, the morphology is accounted for by the human ecology-inspired models of urban form that emanated from the Chicago School in the USA in the 1920s.The models as noted earlier, recognize competition among land uses for desirable locations within cities as the key determinant of their spatial expression. Although the human ecology-inspired models of urban spatial structure have been modified over the years to take account of the changing physical structure of cities as evidenced by White"s model of the city in the 21st century, they neglect the role different

individuals and interest groups play in shaping the built environment. As such the classical Marxian theory, the urban managerialist paradigm, urban political economy paradigm and the post-modern school of thought are used to unveil the story behind the spatial expression of settlements.

The population dynamic of settlements is captured by demography which involves a scrutiny of physical population characteristics such as gender, age, birth and death rates and life expectancy, to mention but a few. However, as has been shown earlier in this chapter, this is not sufficient, as populations can be classified as rural or urban depending on their characteristics. Urban areas denote relatively high densities and employment in the manufacturing, tertiary and service sectors. This is captured by concepts of urbanism, urbanization and urban growth. Urbanism denotes the fact that the concentration of people at relatively high densities who survive on wage labour has behavioural implications as in some cases it leads to the breakdown of traditional kinship ties. Urbanization denotes an increase in the number of people living in areas classified as urban in a given context and is mostly captured by the demographic transition model which links industrial development, birth and death rates with the proportion of people living in areas classified as urban. Urban growth, on the other hand, captures the increase in the number of people staying in areas classified as urban and is captured by the stages of the urban development model which conceptualizes population distribution within and among different urban areas. However, the concepts of urbanism, urbanization and urban growth are not sufficient to capture the population aspect of settlements as they fail to address the underlying motives behind moving from one area to settle in another area. Thus, social, economic, cultural and institutional reasons for migration are explored.

2.6 Conclusion

In this chapter the researcher has argued that a synthetic theory of settlement patterns and trends is made up of the three concepts that define settlement, namely, morphology, function, and population. This is based on the preceding exploration of the theses and anti-theses of the theories and concepts accounting for these structuring elements of settlements in order to come up with a synthesis. The following chapters on international and local precedents for settlement patterns and trends, as well as the methodology adopted by the study and its empirical application to the analysis of settlement patterns and trends in KZN, are based on this synthetic theory.

3. Chapter Three: Settlement Patterns and Trends in the Developed World

3.1 Introduction

This chapter examines experiences in developed countries in relation to service provision; regional economics; the social, economic and physical dynamics of people; urbanization and urban growth and discourse patterns of settlements. Most of the countries in the developed world, especially in Europe and North America, are at an advanced stage of social and economic development and can thus offer lessons for settlement situations in emerging third world countries such as South Africa. For instance, Britain as the first country to be industrialized in the developed world, experienced settlement problems which both ageing and emerging industrializing nations go through, namely, rapid population growth; out-dated industrial districts; pollution; vast expenses of high-density, squalid housing; health and sanitation problems, and unstable employment and unemployment (Bourne, 1975: 59). Instructive lessons can be drawn from policy responses to deal with these problems, as South Africa is facing similar settlement problems, particularly rapid population growth; squalid housing and unstable employment and unemployment rates. The framework of analysis in this literature review is the synthetic theory of settlement patterns and trends developed in chapter 2, whose structuring elements are function, population and morphology.

An evolutionary approach to settlements is adopted for the analysis of precedents from developed countries. Settlements develop within a social formation, without a break, through the duplication of the elements of a preceding social formation (Susser, 2002: 20). It is therefore necessary to study settlement patterns and trends on the basis of the underlying social structure as spatial settlements are a visible expression of modifications of social formations (Lampard, 1955: 90-104; Wooley, 1957; Handlin and Burchard, 1963 *cited in* Susser, *ibid*). A number of social formations can be discerned in the historical evolution of settlement patterns and trends in the developed world, namely, the ancient era, medieval era, mercantile era, industrial era, and the present post-modern era. Although the boundaries between these epochs are not clear cut and vary spatio-temporally, each of these phases is characterized by a dominant settlement morphology, demographics, and function in a given context. The reason for the blurring of boundaries between phases is that some institutions governing settlements have been passed on from one phase to the next. Furthermore, in some instances developments, that took place in the earlier phases, such as those in transportation networks and in the built environment, have left permanent marks on settlements since they are still relevant and in some instances, not easily changed.

3.2 Ancient era

During the ancient era people across the world were hunters and gatherers with no fixed abode. With the introduction of agriculture about 10, 000 or 12, 000 years ago, people became more sedentary, clustering in agricultural villages and towns of relatively small size. The population lived in same sized permanent, plastered stone dwellings with the same number of possessions, exhibiting the egalitarian nature of these early societies (De Blij *et al*, 2007). The earliest examples of agricultural villages based on archaeological evidence include the Fertile Crescent in South East Asia, the Indus River Valley and Mesoamerica in the South of Mexico (Pacione, 2005).

As authority became centralized under kings or priests and surplus started being generated from agriculture, some of the agricultural villages became cities (De Blij et al, 2007). The earliest cities were linked to the emergence of a leadership class and an agricultural surplus, where people settled in relatively dense areas such as Mesopotamia (Fertile Crescent) established in about 3500 BC, the Nile River Valley dating back to 3200 BCE, the Indus River Valley dating to 2200 BCE, Huang He (Yellow) and Wei (Yangtzi) River Valleys of present-day China, dating to 1500 BCE and Mesoamerica dating to 200 BCE (Pacione, 2005; De Blij *et al*, 2007). According to De Blij *et al* (2007), these ancient urban places were geographical exceptions in an overwhelmingly rural society. They had enormous population concentrations relative to the agricultural villages (rural areas), albeit a very slow rate of urbanization.

The ancient cities functioned as centres of religion, power and economics. They were the main market places and thus wealthy merchants, land and livestock owners, and traders operated from them. Educational centres housed teachers and philosophers and they also hosted handicraft industries that attracted the best craftsmen (De Blij *et al*, 2007). Thus, as Susser (2002: 23-24) argues from the synthesis by V. Gordon Childe (1960), the first urban areas were characterized by the existence of non-productive specialists working full time (priests, functionaries, "service workers"); a population of sufficient size and density; a specific art; the use of writing and arithmetical figures; scientific work; a system of taxation that concentrates the surplus of production; a state apparatus; public architecture; external trade; and the existence of social classes.

Therefore, since cities are social creations, as opposed to natural constructions, new forms of organization evolved to cope with the large concentration of population in these ancient cities (Thorns, 2002). The rulers, who were religious elite, largely governed the earliest cities (Thorns, 2002; Pacione, 2005). The morphology of the ancient cities reflected their role and the class and

social stratification that were predominant. According to Pacione (2005), the elite occupied the central district around the ceremonial and symbolic institutions, including the religious, educational and political structures; interspersed within the inner core were the servants of the elite, but the major concentration of lower-class residences was in a zone outside the core and the outcasts were relegated to the periphery, completing the spatial gradation of social status. Pacione argues that this city form for instance, is reflected in cities of Mesoamerica such as Tikal, Vaxactum and Mayapan which were highly stratified, with the elite occupying central city land around the palaces and temples, and the lower classes the urban periphery ruled by a leader drawn from a priesthood and organised into a loose confederation.

During the ancient era, settlement patterns and trends were largely influenced by the migration of people from the ancient cities spreading their knowledge about agriculture and urbanization to other areas. Urbanization spread from Mesopotamia in several directions, especially to the Mediterranean region (De Blij *et al*, 2007). By around 500 BCE ancient Greece had become the most urbanized area on earth. These cities were connected by a network of trade routes that were developed by seafarers. The largest of the Greek cities were Athens and Sparta, with Athens arguably the biggest, with an estimated population of 250,000 inhabitants (De Blij *et al*, 2007). The morphology of the Greek cities was immensely influenced by Greece‟s hilly topography. The temples in the cities were located on the top of the high ground as was the case with the Parthenon of Athens which is still standing. In common with the early ancient cities in southwest Asia, De Blij *et al* (2007) note that ancient Greek cities had public spaces such as squares where people socialized as shown in Figure: 3.1 that depicts Ancient Rome.

Figure 3.1: Ancient Rome, Italy

Source: De Blij *et al* (2007: 269)

The notion of 'planning' land can arguably be traced to this era when the Greek cities, specifically Piraeus, were laid out following a 'grid-iron' street plan (Ratcliffe *et al,* 2009: 3). Furthermore, it should be noted that quality of life in the Greek cities was no better than it had been in the Mesopotamian cities thousands of years earlier as sanitation and health conditions were poor and much of the grandeur designed by Greece's urban planners was the work of hundreds of thousands of slaves (*ibid*).

From Greece, urbanization spread to Rome. When the Romans defeated the Greeks in the Carthage wars, they become the rulers of the Mediterranean region, establishing a much more complex urban system compared to that of the Greeks. According to Susser (2002), the imperial cities of Rome consisted of commercial and administrative functions arising from power exercised through conquest, concentrated in the same urban area. The Roman penetration of other civilizations took the form of urban colonization – support both for the administrative functions and for mercantile exploitation. The city was not, therefore, a locus of production, but of administration and domination, bound up with the social primacy of the political-administrative apparatus (Mumford, 1961, *cited in* Susser, 2002).

Unlike the Greek cities, Roman cities were often chosen for the best trade location, the best defensive location, or as an important religious location (De Blij *et al*, 2007). As such the ancient Roman cities not only acted as central places providing services to their populations and surroundings; their location also took military factors into consideration. The morphology of the Roman cities was, by and large, influenced by the Greeks. This was evident in the stadiums (for example, the Coliseum) that were developed in the Roman cities which were a modification of the squares and theatres of Greek cities. In these stadiums Roman gladiators fought each other or killed wild animals imported from Africa before crowds of thousands of onlookers (De Blij *et al*, 2007). As in the Greek cities, quality of life was polarized between the rich and the poor. The rich, mainly the religious leaders, lived in spacious well-ventilated residences, whilst the poor, mostly slaves, lived in filthy, over-crowded conditions. Therefore, ancient urbanism was also characterised by socio-economic segregation.

Of significance regarding the Roman Empire was the establishment of the Roman Forum which made decisions that carried forward Greek ideas about governance, art, urban design, and technology. This transformed the settlements of Western Europe, south-western Asia, and northern Africa (De Blij *et al*, 2007). The legacy of the built form left by the Roman Forum which is present

in today‟s cities includes rectilinear street patterns; distinct buildings for legislative, executive, and judicial functions; and public spaces adorned with statues and fountains (*ibid*). The establishment of the Roman Forum denotes the fact that concomitant urbanization problems had to be dealt with by some form of leadership. For instance, faced with the problem of noise pollution at night due to the use of chariots, the ancient city of Rome had to ban their use at night (Hall, 2002). The emergence of urban problems therefore brought about regulations meant to improve quality of life in the city. However, the Roman Empire fell mainly because most of the early cities making up the empire were synonymous with disease, fire, and natural disasters as they were located on flood plains which were sites of alluvial soils suitable for crop production and close to waterways for trade and transport (Thorns, 2002).

3.3 The medieval era

After the fall of the Roman Empire in 495 BC, Europe entered into what is termed the medieval or middle era, a period spanning from around 500 to 1300BC (De Blij *et al*, 2007). During this period, the growth of cities in Europe came to a standstill. Nevertheless urban centres grew outside Europe in Africa, Asia and the Americas.

Medieval towns in Europe were very small as evidenced by the fact that they never embraced more than a small fraction of a region‟s population (Davis, 1965). This was largely because of the dominant socio-economic system of feudalism. Feudalism was a system of social organization wherein society was structured along two main socio-economic classes; the serfs and lords. The main structuring element of feudalism was non-market relations between the serfs and the lords as the serfs were legally forced to work for the lords who organized themselves into a rigid monarchy of dominance and power. Another significant feature of feudalism was the focus on self-sufficiency and local markets which hindered innovation and commercial expansion (Pacione, 2005). The main factors that affected the growth of cities during the medieval era were low the productivity of both per-acre and per-man terms which meant that medieval cities could not solely depend on agriculture but had to engage in trade and manufacture trade items. They also could not control their hinterlands politically; hence they became warring city-states (Davis, 1965). Thus Davis points out that the economies of cities were based on commerce and trade; craftsmen were housed in cities in order for the traders to be able to regulate the quality and cost of products; trade amongst towns meant they competed, which stimulated specialization and technological innovation and cities also invested in secular knowledge because of the need for literacy, accounting skills and geographical knowledge.

In Europe during the medieval era, revival of urban growth was only possible after the decline of the dominant socio-political system, feudalism, which came about through the emergence of a mercantile class. The merchant class was the central force behind these towns transforming themselves into centres of trade and commerce. Migration into medieval towns in Europe was also perpetuated by their legal status that guaranteed individual liberties rural citizens did not enjoy when feudalism was still alive.

The morphology of the medieval cities was shaped by merchants to suit their role as centres of trade and commerce. For instance in Germany the city of Liibeck whose growth was driven by merchants had a medieval cathedral, monasteries and a central marketplace comprising of a range of specialist merchants and craftsmen such as bakers, spice merchants or tailors concentrated together in one area, with their living quarters located above their shops (Pacione, 2005). The institutions and morphology of these cities were greatly influenced by the Roman Forum that had developed in ancient Rome especially the legacy of rectilinear street patterns; distinct buildings for legislative, executive, and judicial functions and public spaces.

According to Davis (1965), although the medieval towns remained small and never embraced more than a minor fraction of each region's population, the close connection between industry and commerce that they fostered, together with their emphasis on technique, set the stage for the ultimate breakthrough in urbanization. During this period, 3,000 of the 3,267 urban areas were small towns and villages, only nine cities were regarded as very large, with populations exceeding 25,000, 30 were large with a population between 10,000 and 25,000 inhabitants, and 220 were intermediate sized centres with up to 10,000 inhabitants (Pounds, 1994 *cited in* Geyer, 2002).

3.4 The mercantile period

By the end of the medieval era, around 1400, Europe entered into what can be termed the mercantile period or pre-industrial era. By the end of the medieval era, the European merchants had become so powerful that they were able to engage in fully-fledged international trade with settlements on other continents such as the Americas, Asia and Africa. This period also saw the economic and political powers of the European medieval city being taken over by the expansion of nation-states (Pacione, 2005). With the support they received from their rulers, European merchants were also able to fund urban development on other continents.

Before the European merchants engaged in active trade with these continents (around 1400), urban growth on almost all the continents was mainly restricted to the interior parts of the continents with

interior trade routes linking the urban centres. In West Africa, for example, before 1500, urban centres were largely restricted to a belt extending along the southern margin of the Sahara, including cities such as Timbuktu (Mali), Niani (Guinea), Gao (Mali), Zaria (Nigeria), Kano (Nigeria), and Maiduguri (Nigeria) and cross-desert caravan traffic met boat traffic on the River Niger as people exchanged goods from northern deserts for goods from coastal forests (De Blij *et al,* 2007). This was however disrupted as Africans increasingly engaged in trade with the European merchants and the consequent colonization of Asia, Africa and the Americas perpetuated the growth of port cities.

As the pre-capitalist world made its money largely through land-based production and trade, cities that grew were those that were strategically integrated into these activities (Thorns, 2002). Therefore the dominant 'global' cities of the sixteenth and seventeenth centuries were ones which held a key position within the mercantile world, with London, Amsterdam, Antwerp, Genoa, Lisbon and Venice being the most significant (*ibid*). This meant that urban growth occurred differentially, with cities that were centres of state government and port cities experiencing growth at the expense of inland trading centres, ecclesiastical cities and industrial towns (Pacione, 2005). The outcome was a hierarchical size distribution of urban places, both globally and locally in Europe.

The growth of urbanization during the mercantile period was barely noticeable. Davis (1965) notes that for the 33 towns and cities in the sixteenth century, 46 in the seventeenth century and 61 in the eighteenth century, their average growth rate was less than 0.6% a year against the background of an estimated 0.4% growth rate of Europe‟s population between 1650 and 1800. As such Davis (*ibid*) argues that the advantage of European cities was slight as further indicated by the fact that for cities with a population of more than 100,000, their combined population was estimated to be 1.6% of the estimated population of Europe; 1.9% in 1700; and 2.2% in 1800. During this period, Europe was therefore in the first stage of the demographic transition model as manifested by low rates of urbanization as most people were still employed in agriculture. Europe was largely rural as a minority of the population lived in settlements that were classified as urban.

The opening up of trade on a global scale through voyages by 'explorers' also paved the way for colonialism, the extraction of commodities and raw materials from around the world and bringing these back to Europe (Thorns, 2002: 14). The long distance trade and subsequent colonization of Africa, Asia and the Americas by the European merchants had a significant spatial impact on cities in both Europe and the colonies. In Europe this brought significant wealth which was manifested in Europe's burgeoning medieval cities, such as Amsterdam (The Netherlands), London (England),

Lisbon (Portugal), Liverpool (England), and Seville (Spain) where merchants built ornate mansions, patronized the arts, participated in city governance, and supported the reconstruction of city centres, with squares fronted by royal, religious, public, and private buildings evincing wealth and prosperity, power and influence (De Blij *et al*, 2007). This is reflected in Figure: 3.2 below which depicts the built environment of Genoa, Italy during the mercantile period.

Figure 3. 2: Genoa, Italy

Source: De Blij *et al* (2007: 271)

Therefore this period witnessed the greatest flowering of formal town planning relative to previous epochs as the merchants used their wealth and power to shape the built form of cities in ways they deemed fit. A significant force behind the morphology of cities during the mercantile period in Europe were Adam Smith‟s ideas on economic liberalism published in 1776 in his book *The Wealth of Nations* wherein he propounded his ideas of the „invisible hand‟ which agitated for a limited government role in regulating the economy. As such the wealthy merchants were a significant force behind the built environment of cities. According to Geyer (2002: 19) the free market system also brought about large scale rural-urban migration, first in Britain and later in the rest of Europe as the new urban migrants served both as a labour force in the growing industrial sector and as consumers of manufactured goods.

The European merchants were wealthy and powerful to the extent that they were also able to fund the development of settlements in their colonies. As such the morphology of most of the port cities in the colonies was closely related to that of Europe‟s medieval cities that were shaped by the merchants. For instance, Maputo (formerly Lourenco Marques) in Mozambique and Saigon (now Ho Chi Minh City, Vietnam) were endowed with the ornate trappings of the mercantile cities of Europe, including elaborately inlaid sidewalks, tree lined avenues, and neo-gothic architecture (De Blij *et al*, 2007).

During the mercantile period, from about 1500 to 1800, international migration also had a significant impact on urbanization, urban growth and urbanism. Massey (2006) notes that during this period of roughly 300 years, Europeans occupied large parts of America, Asia and Oceania. Although the exact number of Europeans that occupied these areas is not known, according to Massey (2006), they were sufficient to control the social, economic and political affairs of these areas.

Cognizance must be taken of Europeans that were involved in plantation farming since, according to Massey (*ibid*), although they were small in number, they played a significant role in the demographic composition of the Americas. Since technology was still very rudimentary at that time, plantation farming relied largely on forced migrants that were taken from Africa as slaves. Furthermore, involuntary slavery was often replaced by indenture, where Indian or Chinese peasants signed up for a period of temporary voluntary slavery (Tinker, 1977 cited in Boyle *et al*, 1998). European colonial expansion was thus a driving force behind the growth of international migration, but it was not until Europeans themselves began to participate in substantial numbers in migration (as opposed to organising the migration of non-Europeans) that international migration began to increase sharply (Boyle *et al*, 1998).

3.4 The industrial era

Around 1800 Europe witnessed a significant shift in settlement patterns and trends due to the industrial revolution. The industrial revolution witnessed a shift from the mercantile era economy based mainly on agriculture and trade to an economy largely based on manufacturing. Around 1800, in an overwhelmingly rural Europe, local urban systems were enhanced by the development of small towns for administrative, commercial, regional marketing and manufacturing purposes. This was stimulated by technological innovations in agriculture, metallurgy and textiles and the consequent increase in incomes (Pacione, 2005). The development of mass production manufacturing made traditional handicrafts obsolete. Improvements in agriculture like the invention of the seed drill, hybrid seeds, and improved livestock breeding practices prompted rural-urban migration as

agricultural labourers lost their jobs (De Blij *et al,* 2007). The mechanisation in rural areas increased agricultural production and yields per acre, and created the surplus needed to sustain large urban populations that were not involved in agricultural production (Frey and Zimmer, 2001). Rural-urban migration contributed significantly to urbanization and urban growth as those who lost their jobs due to mechanization thronged the cities in search of employment. Furthermore, the industrial revolution brought about sophistication in transportation and communication systems mainly through the steam engine and railway system, which liberalized trade between places, making urban locations centres of mercantilism (Frey and Zimmer, 2001). These developments had significant implications for settlement patterns and trends in relation to the function, population and morphology.

3.4.1 Settlement function

The shift from agricultural to industrial work brought about sweeping changes to patterns of work and social arrangements, ushering in a new social hierarchy, based on ownership of industrial production and possession of factory-based work skills (Thorns, 2002: 15). The industrial revolution was not only associated with changes in industry; revolutions occurred across the board in areas such as philosophy, science, government, technology, education, administration, politics and the military as multiple functions needed to be conducted within close proximity, creating high population densities (Frey and Zimmer, 2001). This also created the need for interdependence between urban centres as urban areas began to thrive on specialization (Pacione, 2005). Some towns were manufacturing centres; others were regional marketing centres for manufactured products, while still others were depots for collecting agricultural products and raw material for the urban market and industry.

During the early phases of the industrial revolution the distribution of urban centres and urban growth largely reflected resource localization. Thus their function was influenced by the localization of natural resources. When coal replaced water as a principal raw material to power the textile industry, industry became concentrated alongside the coal fields as the machinery during that time consumed huge quantities of coal, which was also expensive to transport; no rail transport was available and canals were the dominant mode transport (Hall, 2002). Therefore, urban centre‟s role as manufacturing centres was significantly influenced by the availability of the raw materials. Some towns in Europe grew from literally nothing but the availability of coal at the inception of the industrial revolution around 1800. For example, in England, Hall (2002) notes that within a few years of the industrial revolution towns developed on the coalfields of Lancashire, Yorkshire,

Durham and Staffordshire. When industrialization finally spread across the European mainland from Britain, the trend was the same; towns were located near coal fields (De Blij *et al*, 2007).

Hall (2002) further notes that many of the towns that thrived during the early phases of the industrial revolution were older-established medieval towns due to their proximity to coalfields, or navigable water, or they became railway junctions soon after the railways arrived as in the case of Leicester, Nottingham and Bristol in England. The relevance of port cities persisted as they were nodes of interchange for raw materials and finished products as revealed by the flourishing of Liverpool, Hull, Glasgow and London. In the Ruhr region in Germany for instance, the emergence of cities such as Bochum, Essen, Gelsenkirchen, and Dortmund based on the textile, metallurgical and coal and iron industries can also be attributed to rich natural resources and favourable transportation networks because of their riverside location (Yong Ho, 2007; Thorns, 2002). Therefore urban growth during this period reflected least cost location in terms of raw materials and transportation. Urban centres without raw material endowments and access to navigable water or rail transport stagnated. Nevertheless, the sophistications in transportation and communication brought about by the invention of the steam engine and railway system industries resulted in urban centres becoming less tied to locations near energy sources; they could establish themselves in centralised, diversified economies, made possible by mass production (Frey and Zimmer, 2001). The steam engine, powered by coal, not only pumped water from the coal mines, but also powered the railroad and steamship and thus gave cities that were not near coal fields the chance to industrialize (Pacione, 2005). Therefore, the nineteenth century saw the development of a new form of urbanism, the industrial city, which brought a new set of cities to the fore as key nodes in the system of global cities; examples include Manchester, Chicago, Detroit, Pittsburgh, and cities in the Ruhr region of Germany, Essen and Dortmund and North East France such as Lille (Thorns, 2002).

Another significant development in the functional role of cities as manufacturing centres occurred in the 20th century when 19th century small scale capitalist enterprises were transformed to large scale corporations that were national in scope (Thorns, 2002). The touchstone of this development according to Thorns (2002) is „Fordism". Fordism connotes the development of mass production of goods heralded by Henry Ford when he improved the working conditions of workers at his car manufacturing plant by reducing their working hours and increasing their wages, a development that enable them to spend on consumer goods. Therefore, cities also became centres for the production and consumption of goods.

The role of cities in the 20th century was also greatly impacted by the Great Economic Depression of 1929-32. In the aftermath of the Great Depression it was noted that, in England, certain regions, whose economy was based on a narrow range of products, such as ships and heavy engineering in Clydeside; coal, iron and steel, ships and heavy engineering in north-east England; cotton and engineering in Lancashire; export coal, and iron and steel in south Wales, established during the Industrial Revolution were not recovering at the same pace as the rest of the regions (Hall, 2002: 55). Hall (*ibid*) notes that this was due to weakening demand from primary producing countries for industrial goods; to technological substitution (oil for coal, synthetic fibres for cotton); and to the rise of new, competing industrial powers (textiles, for instance, in India and Japan). Furthermore, Hall notes that the new industries that represented the twentieth century such as electrical engineering, motor vehicles, aircraft, precision engineering, pharmaceuticals, processed foodstuffs, rubber and cement, to name but a few, flourished in and around London, in towns like Slough, and in the west Midlands (Birmingham and the associated conurbation) and the east Midlands (Leicester, Nottingham, Derby and the area surrounding them).

It became abundantly clear in the 1930s that the problems of bigger cities such as London were allied with the problems of declining areas of the north and south of Wales, all which were part of the broader problem of industrial location (Cullingworth and Nadin, 2002: 17). Hall (2002: 55) notes that unemployment stood at 16.8% among insured persons in Great Britain in 1934, was 53.5% in Bishop Auckland and more than 60% in parts of Glamorgan; in London it was 'only' 9.6%. In these depressed areas, attention initially focused on encouraging migration, training and on schemes for establishing small holdings for the unemployed, but as the problem persisted, it prompted further action (Cullingworth and Nadin, 2002: 17). This was due to differences in the factors of production, such as labour. The persistence of problems such as the cost of increasing congestion and agglomeration around the large conurbations, particularly London and the South-East, a declining economic base and living environments in the peripheral areas, and rapid loss of agricultural land through urbanization (Bourne, 1975: 59) prompted the British government to act. At the local and regional level the challenges included the physical sprawl of cities into the rural countryside, environmental preservation and the need to rebuild and redevelop inner city cores (*ibid*).

The British government appointed the Barlow Commission whose task was:

> to inquire into the causes which have influenced the present geographical distribution of the industrial population of Great Britain and the probable direction of any change in the distribution in the future; consider what social, economic or strategic disadvantages arise

> from the concentration of industries or of the industrial population in large towns or in particular areas of the country; and to report what remedial measures if any should be taken in the national interest.
>
> Cullingworth and Nadin (2002: 18)

According to Hall (2002), under the British constitutional system, the appointment of a royal commission permits a free ranging, independent and deep-probing investigation of a particular problem; the commissioners need take nothing for granted. Thus Hall argues that their investigation was so exhaustive, and their report so authoritative and compelling in its arguments, that it actually represented a danger for later generations: the policies which were based on it became a kind of orthodoxy that was very difficult to shake. According to Cullingworth and Nadin (2002:18) the commission noted that the advantages of more urban concentration at that time included proximity to markets, reduction of transport costs, and the availability of suitable labour. However, these came with serious disadvantages such as heavy charges, mainly on account of high site values, loss of time through street congestion, and the risk of adverse effects on efficiency due to long and fatiguing journeys to work. As such the commission concluded that the disadvantages of many, if not most, of the great urban concentrations far outweighed any advantages and demanded specific government remedies (Hall, 2002: 61). The recommendations of the commission were that the development of garden cities, satellite towns, and trading estates could make useful contributions to solving the problems of urban congestion (Cullingworth and Nadin, 2002:18).

It should also be noted that the Barlow Commissioners in England studied a number of important related problems which included the technical problems of controlling the physical growth of cities and conurbations, and of preserving agricultural land through the establishment of a more effective system of town and country planning; and the linked problem of compensation and betterment in planning (Hall, 2002: 61). On neither of these two questions could they offer definite recommendations: each was so complex, they concluded, that it needed further expert study (*ibid*).

Therefore, the Barlow Commission report adopted a systems approach to the functional role of settlements in regions or nations. It acknowledged that settlements form a series of complex, interrelated places which are integral to the economic, social and political organization of regions and nations. The report alluded to the fact that the problems of urbanization and urban growth in Britain that were prevalent in the main conurbations of London and Liverpool before the Second World War were clearly linked to the depressed regions in the North. Population had to be concentrated where there were employment opportunities. Aptly, as noted in the conceptual

framework, the report noted that regions or nations must be viewed as being made up of settlement systems rather than discrete or independent settlements. This is in appreciation of the fact that settlements are linked together in such a way that any major change in the population, economic vitality, employment or service provision of one will have repercussions for other places (Pacione, 2005).

Furthermore it should also be noted that the Barlow Commission report acknowledged the role of both difference and differentiation in the spatial distribution and functional role of settlements. The report clearly pointed to the fact that the role and distribution of settlements varies depending on factors of production such as natural resources, land, capital, and labour. Therefore, urban settlements that had flourished on the basis of their structure (natural resources) alone during the 19th century industrial revolution such as heavy engineering in Clydeside; coal, iron and steel, ships and heavy engineering in north-east England; cotton and engineering in Lancashire; and export coal, and iron and steel in south Wales (Hall, 2002), failed to recover fully from the effects of the Great Economic Depression as the extraction industries became weaker than manufacturing industries. On the other hand, the commission also aptly pointed out that, conurbations in the South East of England such as London flourished on the basis of both their structure and location (relative easy access and communication). Around London extracting industries such as cement manufacturing and pharmaceuticals were flourishing due to the advantages of more urban concentration manifested in proximity to markets, reduction of transport costs, and the availability of suitable labour.

This was also the case elsewhere in Europe in the aftermath of the Great Depression where it was also acknowledged that the spatial distribution and role of settlements was affected by difference. For instance in Sweden, according to Bourne (1975: 95), by 1975, there was growing interest in the regulation of urbanization, specifically relating to reducing social, sectoral, and spatial imbalances and environmental protection. Policy responses included transferring resources to the socially disadvantaged, more egalitarian income distribution, selective improvements in physical and cultural infrastructure, and pollution control.

As such factors leading to greater awareness of settlement locational and urban problems in Sweden are similar to those in Britain and rest of Europe and the world at large. According to Bourne (1975: 96) the transformation of Swedish society from a depressed rural state in the nineteenth century to a modern industrial state was one of the most recent, rapid, and complete in Europe. Since Stockholm grew rapidly at the expense of most other centres, political attention initially focused on the

depopulation of the rural countryside and the associated social and economic deprivation that accompanies such heavy population loss in the countryside. However, war-time conditions applied pressure for increased government intervention in the pattern of economic growth as military arguments encouraged decentralization, specifically of heavy manufacturing industries and utilities.

The instruments used by the Swedish government are similar to the ones used elsewhere, namely, location aid and employment aid. Location aid took the form of contributions to the establishment or expansion of industry in designated urban centres, including loans, outright grants, guarantees and locational refunds for removal costs (Bourne, 1975: 103). Employment aid included various forms of training grants, employment premiums, removal grants and transport costs, applied primarily to industrial employment and development areas. Bourne notes that other policy mechanisms included informal controls on the siting and expansion of specific types of enterprises in the three largest metropoles, relying primarily on persuasion.

In Britain, the Second World War also acted as a catalyst for differentiating the role of cities. The war and the widespread damage it caused, provided both the opportunity and the immediate urgency for government action, not only in rebuilding damaged areas but also on a broad range of issues that had their origins in earlier decades (Bourne, 1975: 62). The Second World War provided the necessary genesis for the modern planning system, in respect of both physical reconstruction and the desire for more control to be exercised by government (Ratcliffe *et al,* 2009: 13). This is evident in the establishment a number of commissions in 1941 to consider post-war reconstruction, namely, the Uthwatt Committee on Compensation and Betterment, the Scott Committee on Land Utilisation in Rural Areas, and the Beveridge Committee on Social Insurance and Allied Services (Cullingworth and Nadin, 2002). Each report would bear fruit in the form of, respectively, regional policy, taxation of development profit, and protection of national parks, the countryside and green belts (Ratcliffe *et al,* 2009: 13). Another important report was the Greater London Plan published by Sir Abercombie in 1944 which laid the basis for the development of New Towns in England. These reports were translated into three key pieces of legislation, namely, the New Towns Act of 1946, the Town and Country Planning Act of 1947 and the National Parks and Access to the Countryside Act of 1949.

The key focus of post-war British legislation has been on addressing regional problems as expressed in the disequilibrium in unemployment and migration between regions. The Distribution of Industry Act of 1945 aimed to encourage regional balance and reduce unemployment in the depressed regions of Britain (Bourne, 1975). After the Second World War Britain‟s regional policy focused on the

difference between prosperous regions and less prosperous regions, as manifested by differential employment rates. Depressed regions had significantly high employment rates and concomitant high rates of out-migration. As such the focus was reducing the high rates of unemployment and high rates of out-migration from the depressed regions (Hall, 2002: 79). The measures that were taken to implement this act included industrial development certificates (IDCs) through which government could influence industrial location decisions; regional employment premiums (REPs) which are subsidies paid to private firms located in depressed regions, based on the number of employees involved; and capital subsidies and tax allowances to reduce new construction costs as an incentive for plant relocation (Bourne, 1975: 77).

The problem with the British post-Second World War regional policy is that it solely focused on reducing high rates of unemployment and high rates of out-migration from the depressed regions (Hall, 2002: 79). This is a narrow focus, as the difference among regions is not restricted to differential rates of employment. Hall (2002) argues that focusing on differential unemployment rates ignores other regional questions such as unequal industrial efficiency, gross regional product per worker or head of total per worker and regional income, to mention but a few variables. Hall notes that the regional question often focuses on unemployment rates as they are more visible and hence politicians are obliged to target them. Furthermore, after the Second World War, other ways of measuring regional performance besides employment rates such as labour productivity and absorption were non-existent. Hence, in Britain and Europe at large the focus was on reducing unemployment rates. Regional imbalances in Britain lingered in the form of differential regional labour absorption capacities, household income, and labour productivity indexes.

3.4.2 Urbanization and urban growth

In 19th century Europe, natural increase was not a significant contributor to urbanization and urban growth due to high mortality rates in the urban centres caused by outbreaks of disease associated with poor health and sanitation. According to Champion (2002: 88) 34% of the population of England and Wales was already living in 'urban areas' by the time of the first Census in 1801; with the proportion rising to 54% by 1851, and reaching 78% by 1901. In Europe, life expectancy was low, and city death rates were higher than the average for the country as a whole; thus the increase in urban populations was maintained not by natural increase but through migration from the countryside (Thorns, 2002). William Farr, the first Registrar General in Britain in 1837 and one of the founders of the modern science of statistics, showed as early as 1841 that life expectancy was 41 years in England and Wales overall but only 26 years in Liverpool; two years later in Manchester, it was only

24 (Hall, 2002). Further Hall notes that William Farr pointed to shockingly high infant mortality rates in the northern industrial towns: 259 out of every 1,000 children born died within the first year of life in Liverpool in 1840-1, and in the early 1870s the average was still high at 219. Nagle (2000) also points out that the average life expectancy was a mere 15 years for labourers and artisans in Liverpool and 16 years in London's East End. Therefore, during much of the 19th century Europe was in the second stage of the demographic transition model, as the significant contributor to urban growth and urbanization was the economic development in cities that attracted people from rural areas.

Considering the adverse living conditions faced by migrants, the urban areas offered advantages to the rural inhabitant in the form of employment and an increase in wages (Frey and Zimmer, 2001: 15). The migrants tended to be drawn from the poorer sections of the rural population; they had the least to lose and the most to gain by moving to the city. The British parliament‟s approval of the enclosure movement during the eighteenth century made it increasing difficult for many to find employment in the midlands and southern England (Hall, 2002). Hall (2002) also notes that the Irish flooded into Liverpool, Manchester and Glasgow after the failure of the potato harvest in 1845-6; these were people who were really destitute. The economic motive for rural-urban migration and consequently urbanization is therefore clear. In the US for instance, one of the most significant internal migrations in American history has been the movement of African-Americans from the rural South to the industrial cities of the North (Pacione, 2005). Pacione further notes that, whereas in 1900, 76% of the Black population that had immigrated during the slave trade lived in rural areas and nearly 90% in the South, by 1980, 82% of Black Americans were urban dwellers and 47% lived in regions outside the South. Today, most of the movement by Black Americans is within and between metropolitan areas, and the growth of Black population within cities is mainly due to natural increase.

When Europe initiated the industrial revolution and the associated rapid development of urban centres at the beginning of the 19th century it was overwhelmingly rural, with only 1.6% of its population living in urban centres (Frey and Zimmer, 2001). However, the proportions living in urban areas grew apace as in the case of England and Wales, where they doubled twice between 1800 and 1900 (*ibid*). During this period Europe was at the early primate city phase of urban growth, as a few cities dominated the urban system in terms of population size, housing, services and employment opportunities.

The main source of urban growth in the 19th century developed world was rural to urban migration (urbanization) as urban areas remained compact in the face of a massive influx of people from rural areas. In the first half of the 19th century rural to urban migration was the most significant factor contributing to urban growth and urbanization, rather than natural increase as both the birth and death rates were high in European cities. Even though natural increase contributed to urban growth and urbanization in the latter half of the 19th century in the developed countries due to public health reforms, death rates in the cities remained higher in the urban areas relative to rural areas and birth rates remained lower. Davis (1965) notes that in England and Wales between 1901-1910 death rates were 33% higher than the death rate of the rural counties, whilst the gap between birth rates in rural areas and urban centres tended to grow wider during periods of rapid urbanization as in the case of the US. In 1800 urban women in the US had 36% fewer children than rural women did; the corresponding figures for 1840 and 1930 were 38% and 41 percent% respectively. Davis argues that in Europe and the US, during periods of rapid urbanization, with the reclassification of urban areas playing a minor role in urbanization and urban growth, death and birth rates were higher and lower respectively relative to rural areas. The only major source of rapid urban growth and urbanization therefore was plentiful rural to urban migration capable of overcoming the natural increase advantage of cities.

The reason for this huge influx of people from rural to urban areas was that as productivity in agriculture increased with technological advancements, capital cost increased, making a lot of labour a burden, whilst, on the other hand, as productivity in manufacturing improved, the service and manufacturing sectors could absorb more manpower by paying higher wages. Those who lost their jobs in the rural areas were inevitably attracted to the cities. This led to an absolute decline in the rural population, since people staying in the city could not reproduce themselves, thereby inflicting a major population drain on the rural areas (Davis, 1965). For instance, Davis (*ibid*) notes that the rural population in Sweden declined after 1920, in England and Wales after 1861, and in Belgium after 1910. This also implies that during periods of rapid urbanization in Europe and the USA, most people‟s main source of employment moved from agriculture to the manufacturing and service sectors in the urban areas.

Net migration figures during this period however, disguise the movement of short-stay migrants. There is evidence that circulation, rather than rural-urban migration, was characteristic of many parts of late nineteenth-century Europe (Anderson, 1982; Hochstadt, 1981; Johnson 1979 cited in Boyle, 1998). Overall, however, migration led to the redistribution of the population towards urban areas

and away from the rural periphery, such that urbanization was the dominant migration process of this period, just as it is in much of the developing world today (*ibid*).

By the early 20th century, Europe can be said to have had reached the second stage of the demographic transition model. Death rates fell due to improvements in public health and birth rates remained high. Thus the urbanization rate rose steeply, fast approaching 50%. At this point the developed world cities were in the first stage of models of urban growth within urban areas developed by KIaassen *et al.* in 1981, the urbanization stage, a stage where urban settlements grow at the expense of the surrounding countryside, was reached. Thus, city regions were the order of the day as cities were major employment centres in regions and also acted as major high order service centres for the surrounding regions.

At this stage, cities in Europe can also be said to have reached the conurbation stage of urban growth due the coalescence of urban entities that were initially conceptualized as separate. This is particularly true in the case of Britain, as Parker and Unwin‟s satellite towns conceptualization around 1910 never materialized; towns that were planned were submerged by suburban residences. Urban growth and urbanization during the interwar years was also due to the reclassification of rural areas due to the conversion of agriculture land to urban usage.

It should be noted that there has been a close association between urbanization and economic development, especially in the developed world. In general, the later each country became industrialized, the faster was its urbanization (Davis, 1965). This is demonstrated by the urban growth and increase in the proportion of the population living in urban areas demonstrated above which was brought about by the industrial revolution. Davis (1965: 28) points out that the shift from a population with 10% of its members in cities of 100,000 or larger to one in which 30% lived in such cities took about 79 years in England and Wales, 66 in the US, 48 in Germany, 36 in Japan and 26 in Australia. Furthermore, according to Davis the linkage between economic growth and urbanization continued after the industrial revolution as demonstrated by the fact that in 1960, in 199 countries, the proportion of the population living in cities varied sharply with per capita income.

At the turn of the 19th century suburbanization became the order of the day in Europe, largely because of the invention of the motor car. The term „suburbanization‟ stems from the term „suburb‟, which was coined well before the 19th century to refer to an area built up outside the city‟s walls, but from the 19th century onwards it was used to refer to a situation where people could live at a distance from where they worked (Byrne, 2001). This was made possible by the availability of railways, tram

systems and later the motor car at the turn of the 19th century. It should be noted that although towns were beginning to produce suburbs, it was not possible for workers to live in the countryside without a motor car (Hall, 2002: 32).Thus Richardson and Bae (2004) note that transportation has been a liberating force, permitting a degree of suburbanization that would not have been possible before its advent.

In the US for instance, Richardson and Bae (2004) note that suburbanization has been reinforced by the intensification of edge cities which are now competing with the CBDs. Although there are structuralist explanations of suburbanization such as Walker's (1981), structuralist interpretations which allude to suburban growth as a solution to the *crisis of overaccumulation,* through diverting surplus capital into housing and other developments, the interpretation also emphasizes the *ideological* role played by the suburbs. The evidence points to quality of life considerations as the dominant factor (Boyle *et al*, 1998). Thus, Boyle *et al* (1998) argue that suburbanization cannot be solely be attributed to developments in transportation as throughout history it has been a migration-led process associated with quality of life considerations. As urban immigrants swelled city populations in 19th century US and Europe, cities became increasingly dirty, noisy and dangerous (Cater, 1990).

Culture also plays a significant role in the migration of people from the inner city areas to suburban areas. Nicolaides and Wiese (2006) argue that privileged large American and British cities should have retained their convenient domiciles in the core and left the shabby periphery to the poor as happened in Europe, Asia and South America. Consequently they trace the rise of suburbanization to the Christian and Jewish cultures that gave the family an exalted position. The single family dwelling unit in a suburban location became the paragon of middle class housing, the most visible symbol of having arrived at a fixed place in society, a goal to which every decent family aspired. They point that in countless sermons and articles, ministers glorified the family even more than their predecessors had done, and cited its importance as a safeguard against the moral degradation of society. Quality of life, a key driver of suburbanization, is also reinforced by the fact that it was asserted, often through the use of ethnographic evidence, that the suburban experience generated a certain type of lifestyle, namely, a greater sense of community and a decline in alienation, anonymity and deviant behaviour (Tittie and Stafford 1992 cited in Boyle *et al*, 1998). Thus although the early suburbs housed only a small minority of urban residents they were important for their articulation of an elite suburban ideal based on notions of a healthy family life, piety, closeness to nature, well

defined gender roles, and class separation, all embodied in a distinct design programme (Nicolaides and Wiese, 2006).

Although the material conditions of the British cities in the 1890s had significantly improved compared to the 1840s, as shown by improvements workers‟ average income and improved medical standards due to new by-laws beginning to take effect, there were still significant concerns as the 1891 census showed that at least 11% of the population of more than 3 million people, were living at densities of more than two persons per room (Hall, 2002: 31). Furthermore, Hall (*ibid)* notes the Registrar‟s records in Manchester revealed that in the 1880s life expectancy was on average a mere 29 years at birth, only five years more than 40 years previously.

3.4.3 Morphology settlements during the industrial era

The industrial revolution also brought about far-reaching changes in the morphology of cities as their spatial form reflected the dominant mode of production, capitalism. This was reflected in the proliferation of factories, supply facilities and tenements for the thousands who migrated to the cities, as cities had to adapt to the mushrooming population (De Blij *et al*, 2007). The early industrial city was characterized by narrow streets and crowded dwellings located close to sources of employment, the factories (Thorns, 2002) as there was no public transport to ferry workers to work.

Furthermore, the industrial revolution brought about social stratification. There are two main classes inherent in capitalism, namely the capitalists who are the owners of production and labourers who work for the capitalists. This stratification was also expressed in the built form of the industrial city. This separation of the classes that was the hallmark of industrial capitalism is described by Frederick Engels in his analysis of Manchester in 1843 (Thorns, 2002; Frey and Zimmer, 2001). The main zones of the industrial city identified by Engels are the commercial district and the working class district. In Engels‟ analogy of the morphology of the industrial city the commercial district was just under a kilometre long and a kilometre wide, containing offices and warehouses and no permanent residences and intersected by the main roads (Thorns, 2002: 16). The working-class district was located around the commercial core and was roughly two kilometres wide; beyond this lived the upper middle class in regularly laid out streets and in villa-like houses surrounded by gardens (*ibid*). Thus the morphology of the 19th century industrial city could be best explained by the bid rent theory, which postulated that land at the city centre was the preserve of commercial users that could afford it as it was the most expensive in the city because of its accessibility. Outside the city centre was industrial land and the remainder of the land was for residential purposes. Thorns (2002) notes

that the transport system stretched out along the main roads bisecting the working-class areas; the shops and other businesses belonging to the lower middle class were spread out along these roads. Therefore, the commercial lower middle-class areas acted as a buffer between workers and the richer upper middle-class residential districts.

It should be noted that the morphology of the 19th century industrial city was unavoidably problematic. Hall (2002) notes that most towns in Europe, having sprung from villages, had the either the elementary or no arrangements in place to provide water, or clear refuse or sewage, or for treating mass epidemics; even the older towns were overwhelmed by the huge influx of people. As such severe strain was exerted on public infrastructure. For instance Pacione (2005) notes that mid-century London had 200,000 undrained cesspools, and the River Thames was virtually an open sewer. The living conditions of the poor are clearly described by Hall (2002: 15) who notes that:

> Limited water supplies were increasingly contaminated by sewage; there were quite inadequate arrangements for disposal of waste, and filthy matter of all kinds remained close to dense concentrations of people; water supplies were lacking or fitful, and personal hygiene was very poor; overcrowding grew steadily worse, in the form of both more dwellings per acre and more people per room; cellar dwellings became all too common in some cities, such as Manchester or Liverpool; medical treatment, and above all public health controls, were almost completely lacking.

Not surprisingly, cholera and typhoid epidemics were common, especially among the poor city residents. In 1832 they killed 5,000 and 2,800 London and Glasgow residents respectively (Pacione, 2005). According to Hall (2002), there were also cholera epidemics in Britain in 1848 and 1866. This was on top of diseases such as tuberculosis (TB), diarrhoea, and rickets and vomiting, which were all related to overcrowding (Nagle, 2000). Air pollution was due to the use of carboniferous fuels as the basis of industrial energy and residential heating, resulting in smoggy conditions and the restriction of sunlight to most residences (Thorns, 2002).

It should be noted that the dire living conditions in the 19th century European city described above were not the same for all socio-economic classes of people as the European city was characterised by the sociospatial segregation of the lower class and upper class. Pacione notes that the wealthy, with their power to exercise choice, sought to maintain a healthy separation from the masses. Pacione (2005) points to the case of Glasgow where class-based segregation emanated from the movement of tobacco lords away from the old city centre city due to, amongst other reasons, the encroachment of commercial activities in formerly high status residential areas adjoining the central business district,

the deterioration of the social and physical fabric of the central business district and the fear of crime and disease (such as cholera) that were rife in the slums.

The morphology of the industrial city and the concomitant health problems outlined above during the 19th century were attributed to the dominant economic system, capitalism. From the writings of Karl Marx, who argued that the economic base determines the superstructure, Fredrick Engels argued that the built form in the industrial city was a reflection of the capitalist system. Marx had earlier argued that the few individuals who owned the means of production made their riches from their exploitation of the poor masses who were working for them by paying wages that were not related to the wealth they were producing. Therefore, the privileges of the upper middle class were maintained through the exploitation of workers and their poor living conditions; this was a result of the shift from pre-capitalist to capitalist forms of production (Thorns, 2002). Thus classical Marxian theory is useful in explaining the spatial expression of early industrial cities.

All members of society; the rich, the poor and members of the government, agreed that the living conditions in the European industrial city outlined above could not go unchecked (Thorns, 2002; Hall, 2002; Pacione, 2005). As the 19th century came to an end, two factors were important in shaping the structure of the city, namely, the growth of urban reform movements and the rising affluence created by the new capitalist industrial economy (Thorns, 2002).

3.4.3.1 Effect of health reforms movement on the morphology of modern cities

According to Thorns, the rise of the public health movement and epidemiology were central to drawing attention to the links between the occurrence of disease and spatial factors; in turn, this led to the realization that diseases were related to such things as sanitation, a clean water supply, and proper drainage systems. Thus, the growth of medical knowledge, the understanding that overcrowded unsanitary urban areas have economic costs, the fear of social unrest, and the importance of controlling market forces and private property rights in the interests of social well-being led to reforms (Cullingworth, 1979: 15). Of significance, according to Thorns (2002), is Booth‟s work, which linked poverty to income deprivation, occupation, residence and overcrowding; this prompted the creation of a reformist agenda emphasizing more regulation of urban development and improved physical and social conditions. Therefore, in the second half of the 19th century, a number of laws were passed with the aim of promoting public health.

The legislation was the result of the work of Sir Edwin Chadwick from England who studied sanitation among the urban working classes in 1842. His findings led to the establishment of the

Royal Commission on the Condition of Towns in 1844 (Ratcliffe *et al,* 2009). Public Health Acts were also passed during the period 1848 to 1875. Hall (2002) notes that three Acts – the Municipal Corporations Act of 1882 and the Local Government Acts of 1888 and 1894, created new local government structures in the boroughs, the counties (as well as the new county boroughs or large towns) and county districts, a system which remained unchanged until the major reform of English local government carried out in terms of the Act of 1972.

The thrust of this legislation was the creation of adequate sanitary conditions, as they empowered local authorities to make and enforce building by-laws to control street widths and the height, structure, and layout of buildings (Cullingworth and Nadin, 2002). The grid-iron pattern of late Victorian inner suburbs (at 25 dwellings per hectare) gave physical form to this newly established regulation (Ratcliffe *et al*, 2009: 9). According to Hall (2002), by-law housing as it came to be known, tended to occur in a wide ring around the slums of the earlier period (1830-70). These by-laws were effective in promoting healthier and more sanitary neighbourhoods in the 19th century British industrial city.

It should also be noted that the public health legislation of the 19th century had far reaching effects as it laid the foundation for formal town planning in the United Kingdom and the western world at large. The demand for town planning did not stem from an abstract interest, but rather the practical experience of local administration (Cullingworth, 1979). The legislation paved the way for the passing of the Housing, Town Planning Act of 1909 noted above. Housing by-laws had demonstrated the linkages between public health and architecture (Cullingworth and Nadin, 2002). Thus, local government and professional associations such as the Association of Municipal Corporations, the Royal Institute of British Architects, the Surveyors‟ Institute and the Association of Municipal and County Engineers supported the introduction of town planning. In 1909 the first Housing, Town Planning Act was passed. The Act provided for the preparation of „schemes‟ by local authorities for controlling the development of new housing areas (Cullingworth, 1979: 17). Cullingworth (1979; also Cullingworth and Nadin, 2002: 15) notes that although novel, these powers were simply an extension of those dealing with housing and health as the thrust was raising standards for new housing developments. This is so as, „The Act permitted local authorities (after obtaining the permission of the Local Government Board) to prepare town planning schemes with the general object of 'securing proper sanitary conditions, amenity and convenience', but only for land which was being developed or appeared likely to be developed‟ (Cullingworth and Nadin, 2002).

The Housing, Town Planning Act of 1909 was revised in 1919 with the introduction of the Housing and Town Planning Act of 1919. According to Cullingworth and Nadin (2002: 16) this Act did nothing to broaden the scope of town planning in the UK, although it made the preparation of schemes obligatory in all boroughs and urban districts with a population of 20,000 or more. They argue that it contributed more to the field of housing as it made provisions for state subsidized housing, three-bedroomed houses as standard working class housing, and the peripheral location of residential estates.

3.4.3.2 Effects of technological innovations on the morphology of industrial cities

The second factor that shaped the morphology of cities at the end of the nineteenth century was the rising affluence created by the new capitalist economy and transportation system improvements which enabled workers to commute long distances (Thorns, 2002). The rail system, electric trams and then buses and the private car were developed early in the twentieth century. According to Thorns (2002) this allowed some workers to escape the poverty of overcrowded slums by moving to suburban locations. In the 1870s and 1880s horse trams and buses were introduced, with electric trams in use by the end of the century, and motor buses introduced just before the First World War (Hall, 2002). In the US, there were 37 kilometres of railroad in 1830; by 1920 that total track had increased more than 10,000 times to 416,000 kilometres (Levinson, 2005: 175). During the residential building booms that reached their peak at the end of the nineteenth century and early twentieth century (around 1890 and 1915 in most American cities and around 1900 in most cities in the UK) the widespread extension and electrification of tramways and the development and electrification of suburban railways facilitated the development of a wider zone around the edge of cities (Whitehand, 2001: 70).

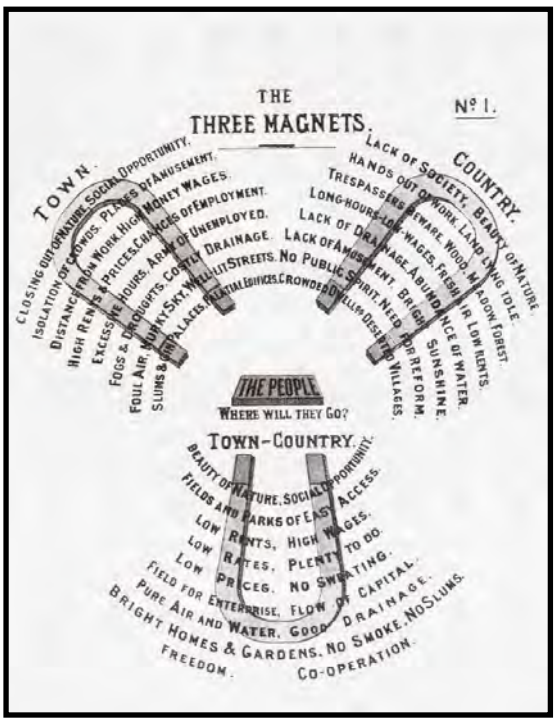
3.4.3.3 The garden city movement and the morphology of developed world cities

In the developed world the morphology of cities was also greatly influenced by the garden city movement spearheaded by Ebenezer Howard at the turn of the 19th century. Howard published his ideas on the garden city in 1898 just after the British Parliament had revoked the requirement that a car must be preceded along the highway by a man with a red flag (Hall, 2002: 32). The garden city movement represents an umbrella of ideas on planning and property development principles to achieve an environment based on amenity and environmental quality (Ratcliffe *et al*, 2009: 7). It represents a reaction against the squalor of the Victorian city (*ibid*). Its basis was a decentralized connected city as opposed to urban concentration. Howard‟s garden city ideas stemmed from an understanding of the advantages offered by urban centres and the countryside. On the one hand, the

urban centres provided people with economic opportunities whilst, on the other, the countryside had no economic opportunities. However, the countryside had the advantage of healthier, more spacious living environments while the urban centres had polluted and crowded living environments which are unhealthy. Thus, he argued that a new type of settlement - Town-Country, or Garden City - could uniquely combine all the advantages of the town by way of accessibility, and all the advantages of the country by way of environment, without any of the disadvantages of either (Hall, 2002: 32). This is reflected in Figure 3.3 on the following page, a graphic that Howard used to make his ideas explicit.

Howard put his ideas into practice with the help of two architects, Raymond Unwin and Barry Parker, who added design principles to his theory. The first garden city was established in Letchworth in Hertfordshire in 1903, followed by Welwyn in 1920 (Hall, 2002; Ratcliffe *et al*, 2009). These settlements were developed as model communities. Howard drew from the public health legislation of 1848 and 1875 to produce master plans for entire areas based on design innovation, affordable housing, mixed use and social ownership (Ratcliffe *et al*, 2009: 8). After the Housing, Town Planning Acts of 1909 and 1919 were passed; other garden cities and housing developments in England were based on these Acts.

Figure 3. 3: Howard's three magnets



Source: Hall (2002: 32)

It should be noted that despite the apparent clarity and coherence of the original vision, the garden city idea and the movement which developed to advance it showed considerable flexibility in practice (Ward, 1992: 2). Ward notes that by 1910 the emerging international practice of town and regional planning had already adopted and technicalized the sum of the garden city concepts. The modifications to Howard‟s ideas were heralded by the changing of the title of his original publication, *Tomorrow* which he wrote in 1898, to *Garden cities of Tomorrow* in 1902. This indicated the subordination of his social reformist agenda to the environmental reform agenda. His ideas were also modified in order to enhance their practical implementation. For instance, in the planning and implementation of the first garden city, Letchworth, the idea of communal land ownership was changed in order to attract capital for the development of the settlement. Furthermore, the infusion of the ideas of architects such as Raymond Unwin and Barry Parker in the layout and subdivision of Letchworth increased the residential plot sizes from the ones Howard initially conceptualized. Thus, Ward (1992) notes that the widening base of support and the articulation of the physical form of the garden city intensified the emphasis on the environmental dimension.

According to Ward (1992: 5) architects, Unwin and Parker focused on the residential environment in their site and residential planning giving their ideas an independent identity from the original garden city package. The garden city ideas were also applied not only to apply to the planning of new settlements but to existing towns. The garden city movement played an integral role in the establishment of the profession of town planning in England. The influence of the garden city ideas on settlement patterns and trends extended to the world at large. Ward (1992) notes that translations of Howard‟s book and ideas appeared in France, Belgium, Germany, Russia, Japan and many other countries.

Although some of the original garden city ideas had been modified drastically by 1910, some remained intact, notable among which were housing reform and residential site planning which was mostly applied at the local level in Britain. Density and land use zoning were also commonly applied in Britain. It should be noted that this idea was not unique to the garden city concept; it was also used in emerging town planning practice in countries such as Germany and the USA (Sutcliffe, 1981: 184 – 185, cited in Ward, 1992).

However, from 1910 onwards, other conceptual ideas started being emphasized and developed within the garden city school of thought in settlement planning in Britain (Ward, 1992). One of these was Howard‟s idea of a decentralized social city. Unwin modified this idea to encompass the notion

of satellite towns which would accommodate further metropolitan development in partially self-contained units which are physically distinct, with green belts of farm, park and woodland separating them from each other and the big concentrated city (Ward, 1992: 10). The idea of satellite towns dominated settlement planning in Europe between the first and second world wars. The satellite towns as conceptualised by Unwin were supposed to be independent of the heavily populated big cities, providing socio-economic opportunities for their residents.

The ideas on „region" which were put forward by Patrick Geddes in 1915 also had a significant influence on the planning of satellite towns in Britain. Through his book *Cities* in *Evolution* (1915), Geddes promoted the idea of 'survey-analysis-plan', in effect the gathering of physical, economic and social survey information as the basis for devising all planning policy (Ratcliffe *et al* 2009: 11). Geddes had observed that in addition to the suburbanization that was spreading cities widely, other locational factors such as the coal fields in the early 19th century, the natural nodality bestowed on certain regions by railways, roads and canals, economies of scale and agglomeration in industry had caused massive concentration in urban development in regions such as the West Midlands, Lancashire, central Scotland in Britain, and the Ruhr coalfield in Germany (Hall, 2002: 43). Geddes pointed out that in these regions suburban growth was causing towns to coalesce, forming big conurbations. According to Hall (2002: 43), Geddes concluded that if this was happening and would continue to happen, under the pressure of economic and social forces, town planning must be subsumed under town and country planning, or planning of whole urban region, encompassing a number of towns and their surrounding spheres of influence.

Another idea that played a significant role in settlement patterns and trends in England was the emergence of an active American garden city/regional planning movement in the 1920s, which combined the thinking of Howard and Geddes (Ward, 1992: 11). One of the main concepts central to this movement which was widely adopted in Britain and Europe in general was the notion of the neighbourhood unit developed by Perry in 1929. The origins of this concept are to be found in Howard's original theoretical diagram of his Garden City, published in 1898, where he divided the town into 'wards' of about 5,000 people, each of which would contain local shops, schools and other services (Hall, 2002: 11). Perry's concept of the neighbourhood unit held that community cohesion could be encouraged within defined residential areas by the conscious provision of common facilities such as schools and shops within easy walking distance (Ward, 1992: 11). In the face of mass private car ownership in the early 20th century, the concept of Radburn layout was added to the neighbourhood concept idea by Clarence Stein and Henry Wright in 1927-1929 in the US (Ward,

1992). Central to this concept of local residential areas is the segregation of pedestrian routes used for local journeys - especially by housewives and children - from the routes used by car traffic (Hall, 2002: 38). This was achieved by the use of *cul-de-sac* access for cars on one side of the dwellings and vehicle free pathways and inner parks, giving pedestrian access to shared community facilities on the other side (Ward, 1992: 12).

It should be noted that satellites towns in British cities during the interwar years (between the first and second World Wars) did not develop as self-contained entities separate from the main cities as Unwin had conceptualised in 1910. According to Ward (1992: 12-13) in Britain during the 1920s there was a tendency to refer to some of the big municipal housing schemes, especially the giant estates built by the London County Council outside its boundaries, as satellite towns. Ward notes that they lacked physical separation, except in the early years before they were submerged into private suburbia and they lacked any actual measure of economic and social self containment.

Therefore, in Britain at the beginning of the 20th century with the publication of Howard‟s garden city ideas, the addition of Raymond Unwin and Barry Parker‟s urban design and architecture, Geddes‟ 1915 garden city movement and the introduction of the first Town Planning legislation; the Housing, Town Planning Act and its extension through the introduction of the Housing and Town Planning Act of 1919, town planning became a significant factor shaping settlement patterns and trends in the UK. Although Howard (1898) and Geddes (1915) viewed town planning not only as a tool for controlling the layout and design of residential areas, but as part and parcel of policies promoting national economic and social development, in reality it represented an extension of the old public health and housing controls (Cullingworth and Nadin, 2002: 16). At the beginning of the twentieth century a series of urban planning experiments pointed the way forward (Ratcliffe *et al*, 2009: 9).

The consequences of such experiments in relation to housing development in UK cities are that housing densities decreased from the unhealthy densities of the Victorian era city to the becoming virtually inefficient by the 1920 and 1930s (Ratcliffe *et al,* 2009; Cullingworth and Nadin, 2002; Cullingworth, 1979). The 1875 by-law set housing densities at 25 dwellings per hectare compared to the post-war norm of between 15 and 20 dwellings per hectare (Ratcliffe *et al*, 2009).

Another issue that Ratcliffe *et al* (2009) point to is that statutory instruments lagged far behind, as there was poor up-take of schemes introduced by the Housing, Town Planning Act of 1909; on the other hand, the town extension policies envisaged in this Act were implemented on a large scale in

the interwar years. The causes were social as well as economic. The economic depression of the 1930s suppressed prices for the benefit of those in employment who, in turn, developed land for speculative reasons, combined cheap building material and labour costs, the social preference for buying one"s own home, expanding public transport and the availability of cheap agricultural land at the urban fringe (Ratcliffe *et al*, 2009). The effect on the structure of cities in England is summed up by Ratcliffe *et al*, (2009: 11), who note that:

> A new landscape was created, with dormitory suburbs built at low densities of around 12-15 dwellings per hectare and relying less on a community infrastructure and more on home based leisure and newly available consumer durables like radios and cars. Indeed, as suburbia grew so did private car ownership, as people became more isolated from shops and services and thus more dependent on private transport.

By the end of the 1920s therefore, the morphology of European cities and in England in particular could be best described by ecological models of urban structure, the concentric zone model in particular, that was advanced by Burgess in the 1920s. This is so because the model aptly notes that a city expands radially from the centre forming a series of concentric zones, namely, an inner central business district with residential areas being invaded by business and industry from the inner core; a working class residential district; a zone of better housing with single family dwellings and an outer zone of commuters with suburban areas and satellite cities. This is primarily due to the fact that, as Nagle (2000) notes, during that period the economy of cities was mainly made up of an expanding manufacturing and retail sector mainly housed in the core of the city, which in turn invaded the inner city zone of low class residences. The model also acknowledges the development of transportation and the concomitant garden city ideas that facilitated the suburbanization of the high and middle classes into free standing, single family dwellings. Thus the strength of this model in common with all ecological models of urban form, as Pacione (2005: 140) notes, is that it highlighted the fact that under free market conditions, certain parts of the city would be occupied by the land use that maximized the use of the site, consequently giving rise to homogeneous areas in the city.

It should also be noted that although the work by Howard and Geddes on the garden city and the survey plan analysis alluded to earlier at the turn of the 19th century can be regarded as touchstones for the application of technical rationality in the planning of cities, the role of planners as gatekeepers for urban land use during the interwar years in Europe was easily submerged by private interests in a society that was largely *lasseiz faire*. The planning machinery that promoted the use of technical rationality in urban land use was the Housing, Town Planning Act of 1908 and the 1919 Housing and Town Planning Act, but this was mostly applicable to public housing projects and had little powers

to regulate the interests of private developers and industrialists. As such the underlying cause of the morphology of the industrial city in Europe during the interwar years as expressed by the concentric zone model was unregulated industrial capitalism, dominated by speculative private developers who sought to maximize the net present value of their money by hoarding and developing fixed assets, waiting to release them at an opportune time to maximize their profits.

3.4.3.4 Satellite towns and the morphology of developed world cities

Another attempt to solve the problems in Britain around the 1930s was the development of satellite towns that were both physically separate and socio-economically self-contained. This was a movement away from the towns Unwin had conceptualized in 1910 which had failed to unfold according to plan. According to Ward (1992: 13) in 1931 Unwin presented a report to a central government committee wherein he proposed three categories of new settlement associated with a firm push to accelerate industrial decentralization, namely, planned suburban units, as self-contained as possible, were to be developed on the outskirts; physically distinct and economically and socially self-contained satellite towns were to be developed within a 12-mile radius of London and completely independent industrial garden cities were to be developed in the 12-25-mile ring around London. However, in as much as this did not do much to mitigate the negative effects of sprawl in London, Ward (1992) notes that it achieved more in provincial cities such as Speke in Liverpool and Wythenshawe in Manchester, setting new standards of self-containment, physical separation and social mix.

At this juncture it should be noted that the early ecological models, the concentric zone and sector models of urban growth, proved to be static in explaining the spatial structure of European cities in general, especially in the UK. They failed to acknowledge the fact that the CBDs were losing their dominant position as the single nucleus of the urban areas as several urban regions in cities in Europe in the 1930s were developing their own nuclei (Pacione, 2005). This is particularly true in Britain, as the development of satellite towns as semi-autonomous entities facilitated the development of several nuclei around the cities of London and Liverpool. The underlying reason behind this spatial structure can be found in the urban managerialism paradigm put forward by Weber and outlined in the conceptual framework in chapter two of this study. The role of the town planners as experts in the gatekeeping of urban land use was increasingly being accepted. The development of urban areas with multiple nuclei in Britain in the 1930s was largely a product of the development of satellite towns that were meant to curb the problems associated with urban sprawl.

However, all these efforts did little to halt sprawling British cities in the 1930s. Cullingworth and Nadin, (2002: 17) note that these problems increased as the housing boom of the 1930s developed; 2,700,000 houses were built in England and Wales between 1930 and 1940.They also note that at the outbreak of Second World War one-third of all the houses in England and Wales had been built since 1918.

Due to the economic boom and depression in America in the late 1920s and the problems of suburban development manifest in the loss of prime agricultural land and congestion in urban areas, as well as uneven regional development in Europe and Britain in particular, all which were blamed on lack of state control over the market, a new regime regarding the role of the state role was ushered in. The state took an opposing role to the *laissez-faire* approach prevalent in most of Europe before the Second World War. It took a leading role in social and economic developmental issues. As Cullingworth and Nadin (2002: 20) note, in Britain there was realization that the pre-war planning system was fault in that:

> It was optional on local authorities; planning powers were essentially regulatory and restrictive; such planning as was achieved was purely local in character; the central government had no effective powers of initiative, or of coordinating local plans; and the „compensation bogey", with which local authorities had to cope without any Exchequer assistance, bedevilled the efforts of all who attempted to make the cumbersome town planning machinery work.

The New Towns Act of 1946 heralded the planned decentralization of new towns around the major conurbations of England (Ratcliffe *et al,* 2009: 13). This act is a reflection of Abercrombie's Greater London Plan drawn up in 1945. The Act laid the basis for: 1) the physical containment of urban growth and the reduction of densities in the older inner cities; 2) the designation of green belts to preserve open space and to facilitate containment; 3) the construction of a ring of new towns around major conurbations to alleviate urban sprawl and to accommodate populations decentralized from the thinned out inner city; and 4) strict limits on the location of industries (Bourne, 1975: 67-68).

The Town and Country Planning Act of 1947 in Britain brought almost all development under the control of local authorities by making it subject to planning permission; the Act required that development plans be prepared by local authorities for all areas in the country (Cullingworth and Nadin, 2002: 21). At the same time, they were given the power to grant permission for land use change (Bourne, 1975). This meant that land was nationalized as planning permission for developments would only be permitted where community interests would not be harmed or compromised (Ratcliffe *et al*, 2009). The Act intended to ensure „...the best use of land..." by

removing the unlimited right of owners to undertake land conversions and by removing speculative development values (Bourne, 1975: 65).

A key feature of the 1947 Act was thus the linkage of plan-making and development control through the creation of new local planning authorities charged with both functions (Hall, 2002). These consisted of counties and the county boroughs in England and Wales, whose mandate was to draw up and revise development plans for their area, based on a survey and analysis (*ibid*). Thus the Act signified the intensification of rational comprehensive planning as issues affecting local areas and regions at large were supposed to be considered before land development permission could be granted. Thus the urban managerializm paradigm was at the forefront of shaping urban land use. The plans that local authorities were supposed to draw up consisted of written statement and maps that showed all important developments and intended changes in the use of the land over a 20-year future period (Hall, 2002; Cullingworth and Nadin, 2002). Another significant feature of the 1947 Act is the fact that compensation was to be paid to developers who lost their development rights in the event of expropriation. Therefore the state had the right to take over land from private individuals if this was deemed to be in the interests of the public on condition that appropriate compensation was paid.

The British post-Second World War planning machinery did not lead to the desired outcomes. While some of the assumptions made by the founders of the post-war British system proved to be correct, during the 1950s dramatic changes took place, some of which were a result of the release of pent-up demand that followed the return of the Conservative government in 1951, a government that attacked the planning controls (Cullingworth and Nadin, 2002: 22).

3.5 Summation of settlement patterns and trends in the developed world during the industrial and modern eras

The dawn of the modern era heralded by the industrial revolution in the developed world led to significant changes in pre-industrial settlement patterns and trends. Technological innovations in agriculture in the rural areas and manufacturing in the urban areas complemented each other in propelling a dominantly rural populace towards urban areas for economic reasons. This led to the emergence of an increasing urban population concentrated in few primate urban centres such as London, Manchester and Liverpool in the case of Britain and cities in the Ruhr region in the case of Germany. The function of these cities was largely influenced by „difference" as they were based on natural resources localization. Their spatial patterns at the early stages of the industrial revolution largely reflected the vantage points of owners of the means of production as manifested by spaces for workers in crowded tenements, spaces for the bourgeoisie in healthy, liveable neighbourhoods and

spaces of consumption in the form of retail and shopping space. However problems of disease and congestion caused by the overconcentration of population in a few primate cities prompted differentiation of settlements as states in the developed world rationally and technically intervened to alleviate settlement problems. This has been demonstrated by technological innovations in transport, the introduction of the Garden City concept and the concept of „region" by Ebenezer Howard and Patrick Geddes, respectively. These developments are the touchstones of modern planning which can be best described as rational and comprehensive. Thus spatial patterns in the modern era mainly manifested by suburbanization in main urban centres and the development of small and intermediate size urban centres given effect by the new town movement spearheaded in Britain can largely be accounted for by the urban managerialist paradigm.

3.6 The Post-Modern Era/the Techno-economic era

Towards the end of the 1960s a new era emerged in the development of settlement patterns and trends in the developed world. This was due to the rise of the informational mode of development and the restructuring of capitalism. The informational mode of development entails a society where knowledge intervenes in knowledge itself as a way of improving productivity (Susser, 2002). Therefore, Susser (*ibid*) argues that in contrast to the industrial mode of development, where knowledge is called upon to provide new sources of energy and reorganize production accordingly, the informational mode of development is characterized by mobilizing the generation of new knowledge as a key source of productivity through its effect on the other elements of the production process and their relationships. However, the bottom-line of capitalism remains intact as the objective remains the maximization of private profits.

The emergence of the informational mode of development was prompted by a series of scientific and technological innovations in micro-electronics during the two decades from the late 1960s to the late 1980s which built on the sequential discoveries of the transistor (1947), the integrated circuit (1957), the planar process (1959) and the processor in 1970 (Susser, 2002: 260). According to Susser, innovations in micro-electronics led to telecommunications flourishing due to the possibility of connections between processing units to form information systems; the fact that the application of these micro-electronics based information systems to work processes in factories and offices created the basis for CAD/CAM (Computer Aided Design/Computer Aided Manufacturing); and flexible, integrated manufacturing and advanced automation, which paved the way for the general application of flexible integrated production and management systems.

On the other hand, the restructuring of state regulated post-Second World War capitalism in Europe from the early 1970s was prompted by the fact that states across Europe had entered a fiscal crisis brought about by growing expenditure (determined by social demands) and comparatively decreasing revenue (limited by the need to preserve corporate profits) (Susser, 2002; Thorns, 2002). Susser (2002) notes that state regulated capitalism after the Second World War had assured unprecedented economic growth, gains in productivity, and prosperity for about a quarter of a century. However, in Europe, this economic prosperity was hampered by massive deindustrialization from the late 1960s as expressed in the enormous decline in both the absolute and relative numbers of people employed in making industrial goods (Bryne, 2001: 45). This was prompted by competition from other emerging economies such as Japan that produced goods more efficiently due to better manufacturing techniques, as well as the rise of labour movements that increased rights and benefits for workers. Furthermore, the oil shocks of 1974 and 1979 were precipitant events which, acting structurally, determined inflation, drove the circulation of capital out of control prompting the need for austerity policies and fiscal restraint, and thus undermined the economic basis for state intervention (Susser, 2002: 270).

According to Susser (2002: 271), the restructuring of capitalism in the developed world and Europe in particular entailed the establishment of:

> A new model of socio-economic organisation which would be able to achieve the basic aims of the capitalist system namely: to enhance the rate of profit for private capital, the engine of investment thus growth; to find new markets both through deepening the existing ones and incorporating regions of the world into the integrated capitalist economy; to control the circulation process, curbing structural inflation; and to assure social reproduction and economic regulation of the system, through mechanisms that would not contradict those established to achieve the preceding goals of high profit rates, expanding demand, and inflation control.

From the end of the 1960s settlement patterns and trends in Europe were therefore largely impacted by the emergence of the informational mode of development and the restructuring of capitalism owing to the economic crisis of the 1970s. These two developments complemented each other, giving rise to what can be best described as the techno-economic paradigm. The two components of the paradigm are only distinguishable analytically because while informationalizm has now been decisively shaped by the restructuring process, restructuring could never have been accomplished, even in a contradictory manner, without the unleashing of the technological and organizational potential of informationalizm (Susser, 2002: 277). As such there was remarkable transformation of

modern conceptualizations of production, the labour process, state, ideology and space (Thorns, 2002).

3.6.1 The function of settlements in the techno-economic era

Production was decentralized to regions or countries of the world characterized by lower wages and more relaxed regulation of business activities (Susser, 2002). This saw the emergence of transnational corporations (TNCs) without strong ties to particular nations, regions or localities which make location decisions on the basis of enhancing overall profitability. The labour process also came to be characterized by more flexible working practices as the assembly line system gave way to more varied arrangements designed to produce a more diversified range of products for much more diversified and fragmented markets (Thorns, 2002: 72). Thus workers in many countries have moved from secure systems of employment to more „flexible" contracting forms of employment rather than permanent systems (*ibid*). This also entailed a major surge in economic activities.

Under the new techno-economic paradigm the role of the state as the key champion of socio-economic developmental goals has changed since the 1970s. The state"s role in welfare provision has been drastically diminished; rather states have promoted user charges and the privatization and sale of state assets and contracting out (Pussey, 1991, cited in Thorns, 2002). This is also associated with the ideology that pits the state as an „enabler", moving away from the actual provision of services to encouraging the formation of partnerships with the third sector and the private sector (Thorns, 2002: 73).

Therefore, with the emergence of the techno-economic paradigm, the central role of the state in formulating and implementing policies to realise development goals, as in the period after the Second World War, dwindled drastically in Europe. There was a shift from government to governance. According to Rakodi (2001), governance depicts a shift from the predominant assumption held up until the 1980s, that governments had the authority and capacity to govern, formulate and implement policy and to realize development goals (Rakodi, 2001). The shift from „government" paves the way for „governance": „the interactive relationship between and within government and the governed; it is about the way power structures of the day and civil society interrelate to produce a civic public realm" (Swilling, 1997, cited in Rakodi, 2001). Thus developmental policies are no longer determined by a single stakeholder, but by the outcome of the interaction among the different stakeholders. City governance involves an array of actors and institutions which influence and determine what happens within a city (Beall, 1996). The actors involved in urban governance include

businesses; both corporate and informal, civil society; including community organizations and non-governmental organizations, political organizations, religious groups, trade unions and trade associations and agencies of national, regional and local government; including traditional authorities *(ibid.)*. Thus in the techno-economic era, settlement patterns and trends are differentiated by multiple and sometimes competing interests.

It is this context that the problems faced by modernist conceptualizations of settlements brought about by the dawn of the techno-economic paradigm were addressed. The problems included the decline and decay of inner city areas due to deindustrialization as the manufacturing sector plummeted in the face of the informational mode of development and the intensification of global competition. Bruton (1985) notes that between 1971 and 1981 employment in the primary industries continued to decline as did the number of jobs in the manufacturing sector. Manufacturing sector jobs declined by 24%, although this loss was offset by a 16% increase in service employment. The outcome of these changes, according to Bruton, was that 28% of the workforce in the UK was employed in manufacturing in 1981, as against 62% in services. Running parallel to suburbanization and counterurbanization during the same period in Britain was the decline in manufacturing jobs in central city locations, given high land values, old buildings, out-moded technology and problems of accessibility in central city locations (Bruton, 1985: 20). New manufacturing industries were located on the outskirts of major towns and cities; in green field sites in close proximity to motorway junctions, or in small town locations, a development that was made possible by the substitution of rail with road transport as the major mode of freight transportation (*ibid*). Associated with this development, as Bruton (1985) notes, new offices, service and retail developments were established in the outer metropolitan areas, or in freestanding towns beyond those areas.

To demonstrate this development in detail, Bruton (1985) points to Simmie‟s analysis of the spatial impact of the demographic and economic changes in the London Standard Metropolitan Labour Area (SMLA) between 1971 and 1980. According to Bruton, Simmie found that, employment in the manufacturing industry declined by 11% to 29% of the total, while employment in services grew by 18% to 66% of the total. It is also noted that within the SMLA, the decline in manufacturing was most severe in the CBD (Westminster and the City) and the outer areas of the SMLA. On the other hand, it is noted the growth of the service industry was greatest in the outer areas, and the remainder of the urban area other than the CBD.

Accompanying the above economic developments in Simmie‟s study, Bruton notes, is population and household change. For, instance, it is noted that in the CBD, the population fell by 22% and the number of households by 19%; in the inner urban authorities, the population fell by 12% and the number of households by 7%. In contrast, it is also noted that the population in the outer part of the area (the inner areas of the home counties) remained static, with a 6% increase in the number of households. Bruton (1985: 21) notes that Simmie attributes this to the dynamic interaction of a number of factors, namely, decisions taken by economic organizations in the context of the international economy, decisions taken by households to maximize their relative satisfaction from jobs, housing, social and environmental factors, and decisions taken by government organizations in the context of their politico-administrative responsibilities and the pressures for land in the area.

Greis (2004) argues that the 21st century has set new standards for participating in the global economy, ushering in new roles for municipal development and industrial competition as favourable taxes, an adequate supply of skilled labour and financial incentives are no longer enough to attract companies. He notes that cities need to understand the role that trade, especially international trade, plays in the development of the metropolitan area. Thus the metropolitan area in this era will prosper depending on its ability to provide the logistical and information infrastructure needed by enterprises to compete; new approaches to business strategy demand integrated infrastructure enabled by new intelligent software technologies that can manage the increasing complexity of the logistics task (*ibid*: 31). The underlying rules of competition, as Greis (2004) notes, have changed, since companies no longer compete with one another head to head but rather through integrated networks of firms or supply chains.

This creates a major challenge for cities to provide new infrastructure which enables survival in an era with new game rules. In this business environment, there is need for collaboration between different role players; in the same way that companies need to receive raw materials and transform them into a finished product faster than their competitors, cities need to provide logistical infrastructure to support speed-driven competition (Greis, 2004). This being the case, according to Rondinelli (2004: 11-12) in the 21st century, the future competitiveness of metropolitan areas depends

> on developing and supporting clusters of knowledge-based organizations, providing advanced, integrated, multimodal transportation infrastructure, facilitating the creation and expansion of digital communications infrastructure and services, developing human resource capacity to operate and manage global knowledge-based enterprises and creating an attractive and sustainable quality of life.

It can be concluded, therefore, that the functional role of settlements during the techno-economic era was not only a product of location and resource localization but also a product of differentiation.

The dawn of the techno-economic paradigm in Europe also coincided with massive environmental problems. During the interwar period in Europe and soon after the Second World War regional settlement problems fell under the ambit of resource localisation and location. In an attempt to redress regional imbalances focused on infrastructure provision, policies were formulated to redistribute industry and employment between regions in Europe. A good example in Britain is the construction of the M4 link to South Wales and the Severn Bridge and the construction of the extensive motorway network to Scotland (Bruton, 1985: 30). Bruton points out that the aim has been to discourage new or expanding industries from locating in prosperous parts of the country such as the South-East and the Midlands and to encourage them to move to areas characterized by declining manufacturing and primary industries and high unemployment, such as South Wales, Central Scotland, and the North-East. These policies were accompanied by burgeoning of car ownership in the main metropolitan areas, as suburbanization intensified. Hall (2002) notes that by the end of the 20th century 71% of households owned at least one car (against 31% in 1961) and 27% owned two or more cars; one garage per family (with additional space in reserve) had become the standard almost everywhere. Hall (2002: 103) argues that not only did the new cars need houseroom in the residential areas, they also put increasing strain on the country's road system, the most congested in the world, and this resulted in a constantly increasing road-building programme from the mid-1950s onwards. This raised serious concerns about the relationship between transportation and the environment. The penetration of motor vehicles throughout urban areas is brings its own peculiar penalties of accidents, anxiety, intimidation by large or fast vehicles that are out of scale with the surroundings, noise, fumes, vibration, dirt and visual intrusion on a vast scale (Bruton, 1985: 34).

It is in this context that the discourse of sustainable development emerged. The concept has its roots in the eighteenth and nineteenth century Europe when foresters realised that they needed to plant enough trees to ensure that the wood fibre lost to harvesting was replaced (Davoudi and Layard, 2001). Sustainable development has attracted a great deal of popular support worldwide (Barton, 1995), especially since the 1970s. Stupar (2008) points to milestone summits, declarations, promises and agreements about sustainable development - from the „United Nations Conference on the Human Environment" (Stockholm, 1972), the Bruntland Commission (1987), the Rio Summit (1992), Rio + 5 (New York, 1997) to Rio + 10 (Johannesburg, 2002) and Kyoto (1997, 2005). Although these are still far from being widely implemented, with the need to bridge the gap between political statements

and terrestrial reality (*ibid*), sustainable development is generally viewed as a good thing and, like democracy, very few people will argue against it (Batty, 2001). For many people the word still eludes clear definition and its importance and common usage assume a common understanding dependant on intuition rather than definition (Philips, 2003).

The most quoted definition of sustainable development is provided by the Brundtland Commission in 1987 in its report *Our Common Future* (Batty, 2001). It defines sustainable development as: „development that meets the needs of the present without compromising the ability of future generations to meet their needs" (WCED, 1987: 8). Consequently „sustainability" is about the maintenance of the health of the biosphere and the husbanding of the key resources of air, water, land and minerals (Barton, 1995). Therefore the notion of „development" in the context of sustainability is broader than simply economic growth, or Gross National Domestic Product (GNDP). It implies improvement in: the quality of life, health and nutritional status, equity in access to resources and services, per capita income and the perceived quality of the human environment (Barton, 1995).

The implications of the techno-economic paradigm were that different settlements, be they states, regions or cities had to find ways of competing globally on the economic level, and dealing with settlement challenges such as unbalanced development and environmental challenges. This invoked the discourse of sustainable development. Put differently, the techno-economic paradigm heralded the need for holistically taking difference, differentiation, and heterogeneity into account when dealing with the functional role of settlements within settlement systems. This is not only an appreciation of the fact that different settlements are different because of resource localization and accessibility, but because they are further differentiated by the activities of their residents or governments in the face of global economic competition. In the context of the techno-economic paradigm, particularly the informational mode of development, the generation of new knowledge is central to competitiveness. Furthermore, distinct characteristics within settlements in terms of culture, gender, race and religion, had to be considered especially in the light of the avalanche of international migrants during the „golden era" of western capitalism (the period of economic prosperity after the Second World War). This created heterogeneous populations in terms of culture.

3.6.1.1 The impact of regionalism on the functions of settlements

At the turn of the 20th century regionalism was placed at the core of settlement policies and strategies. Regionalism refers to a perceived sense of social distinctiveness by a group of people sharing the same geographic area whose basis might be language, region, culture, a common history

or shared politics (Harrison, 1998). Keating (1997) notes that from the 1970s regional problems were mostly viewed in spatial terms with national governments encouraging communities to express their problems within local contexts. In the context of the techno-economic paradigm Keating (*ibid*) identifies a form of regionalist policies dominated by economic concerns and competitive relationships between various settlements in the global economy. As such regionalism considers both endogenous and exogenous factors of settlement development, namely, natural resource endowments, culture, politics, religion, race and also the international appeal of settlements in terms of trade and investment respectively. There is an appreciation of the fact that settlements are not only different because of their natural resource endowments and location but they are also differentiated and heterogeneous. In recognition of local and international socio-economic developmental factors, regionalism embraces supranational, national, regional and local stakeholders in the formulation and implementation of settlement development strategies. It is within this framework that settlement strategies aimed to counter socio-economic problems brought about by settlement development strategies based on location and resource localization in the face of the techno-economic paradigm since the turn of the 20th century.

3.6.1.2 Urban regeneration

In Europe and America the main response to the emergence of the techno-economic paradigm within this regionalist framework are urban regeneration programs. Various forms of urban regeneration can therefore be identified, namely, property-led, cultural industries-led and urban tourism-led regeneration (Pacione, 2005). Property-led regeneration entails assembling finance, building materials and labour to produce or improve buildings for occupation. Cultural industries-led urban regeneration denotes the fact that as urban places compete within the global economy for limited investment funds their success depends on the conscious and deliberate manipulation of culture in an effort to enhance their image and appeal. Urban tourism and downtown redevelopment regeneration is centered on the argument that advertising the city as a tourist destination and engaging in place-promotional events such as arts festivals, sports events and world fairs helps to attract footloose capital.

As such a key feature of urban regeneration is that it is an interventionist activity that brings significant changes to institutional structures in response to changing economic, social, environmental and political circumstances as it straddles the public, private and community sectors (Roberts, 2000). Urban regeneration is by its very nature an interventionist activity in that whilst

traditionally many forms of intervention have been state led, the desirability of intervening in order to correct a failure of the market has increasingly become a matter of public-private consensus (Nijkamp *et al*, 2002). Nijkamp *et al* point to the various public-private partnerships (PPPs) that have been a key feature of urban regeneration and transformation projects. These indicate that socio-economic challenges are not only a public responsibility, but involve many stakeholders, with different policy objectives and targets. In this changed regime the actors involved in urban management and regeneration are required to establish new methods of reaching consensus. The most important feature of this mobilization of collective effort is that it encourages a diversity of discourses „not merely about content, but about the process through which people seek to debate their concerns" (Roberts, 2000).

Therefore, another key facet of urban regeneration is the role of knowledge spillovers in reconciling increasing returns (which are generally needed to generate endogenous growth) with competitive markets (Glaeser, 2000). Cities are understood as centres for idea creation and transmission through the central role of technology intellectual spillovers and human capital externalities (*ibid*). In this context, therefore, the main strategies used to stimulate urban regeneration are developing an economy based on a high technology industry such as research and development (R&D) support, science parks and technology transfer services; revitalizing and modernizing existing industry through the use of new technologies, more efficient organization of production, new products and diversified markets; developing and expanding the service sector; industrial clustering; diversifying and upgrading the skills and flexibility of the workforce resident with a region; improving and extending physical, business and social infrastructure; and promoting a supportive institutional environment.

3.6.1.2 Strategic projects

In the European context, since the turn of the 20th century most countries have engaged in strategic projects at sub-national scale that focus on employment creation through the attraction of foreign investment to enhance sustainable socio-economic development as the catalyst for urban regeneration. Mixed-use strategies have been devised to balance the economic, social and ecological objectives of these projects. Strategic projects represent an appreciation of the fact that the globalization and modernization of social and economic relationships are having a significant impact on the functioning and spatial organization of urban regions in Europe (Salet and Gualini, 2007). Some of the most notable strategic projects implemented in Europe since the early 1990s include

Plan Zuidas in Amsterdam, The Netherlands; the Universal Forum of Cultures 2004 in Barcelona, Spain; and the City of Science, Technology and Media in Berlin Adlershof, Germany. In all these projects the enhancement of the „economic competitiveness" of the region was one of the major drives (Salet and Gualini, 2007). This was achieved through the provision of advanced service sectors of the economy. For instance, in the case of the 'Berlin Adlershof - City of Science, Technology and Media', Bachmann (2007) notes that the aim was to establish a living city district that has an urban quality of life characterized by different, balanced uses, such as research and development, trade, media and service industries, scientific schools, and living and leisure (a mixture of uses). This was rooted in the reputation of the internationally recognized Academy of Sciences (Akademie der Wissenschaften - AdW), whose priorities were related to physics and chemistry and which hosted various related research institutes and companies. However, Bachmann (2007) notes that the plan was for Adlershof to become more than just a pure science park, an exclusive industry site, an isolated university campus or a mono-functional media site.

In the case of the Barcelona Universal Youth Forum project, Benedicto and Carrasco (2007) note that the main socio-economic purpose was to achieve a higher degree of spatial specialization by attracting new knowledge-dense activities and to reinforce the regeneration of one of the city's most degraded areas, namely the districts of La Catalana and LaMina. They note that this was to be achieved by transforming it into a centre of activities associated with new technologies, design, editorial production, culture, the audio-visual world and any other activity able to co-exist with residential uses and having a potentially positive effect on the city's economy. They also note that the Forum of Cultures 2004 was located between two municipalities, Barcelona and Sant Adria del Besos, but was expected to have direct effects on the agglomeration and function as a positive stimulus to the international image of the metropolitan area beyond Europe. They argue that this was in view of the fact that in past decades, three main economic processes can be identified in Barcelona, namely, industrial restructuring since the 1960s, innovation and technological change in the productive process, and the target of integrating the Spanish economy within the European Community and global markets.

Since the end of the twentieth century the hosting of mega sporting events such as the Soccer World Cup and the Olympics in Europe focused on the legacy of positive economic and spatial transformation of the urban space through the implementation of strategic projects. These events have been used as catalysts for urban development in the face of changing economic circumstances (Gold and Gold, 2006: X). In the developed countries, since the 1970s there has been a need to

resuscitate declining urban economies due to deindustrialization by stimulating new forms of employment (Salet, 2007; Gold and Gold, 2006). The emphasis started shifting towards attracting direct investment and promoting the cultural sector - including sport, tourism, entertainment, media and creative design (*ibid*). The variable fortunes of cities in staging events, for reasons connected to what went on both within and outside the stadium, has been the subject of much research (Gold and Gold, 2006: X).

For instance in Spain, the organizers of Barcelona 1992 provided a much-admired model of how to achieve mega-event-driven urban regeneration. City planners routinely integrated the Olympics into general exercises intended to have a material impact on the long-term future of their cities by offering a broad package of benefits. *Inter alia,* these included boosting a city's economy, improving its international standing, repositioning it in the global tourist market, promoting urban regeneration, revamping transport and service infrastructure, creating vibrant cultural quarters, establishing a network of high-grade facilities that could serve as the basis for bids for future events, and gaining a competitive advantage over rivals.

3.6.1.3 Enterprise development zones

Enterprise development zones have been another vehicle to promote urban regeneration. The basic idea of the enterprise zone stemmed from the concept of free ports, the creation of small zones free of government restrictions and subject to relatively low taxation (Nagle, 2002).The aim of enterprise zones was to reduce the costs of doing business especially in inner city areas and metropolitan cores that had degenerated as a result of deindustrialization. Enterprise zones in Britain were meant to do away with the problems that held enterprises back; these ranged from inner-city landholding by public bodies (dealt with by requesting publicising of the vacant land, which would thereby automatically trigger a market use); to the 'wasteful' and 'unnecessary' tier of metropolitan government in London and the provincial conurbations (simply abolished) (Cullingworth and Nadin, 2002: 26). Thus enterprise zones were envisaged as being „mini" Hong Kong where aspects of state control, both central and local, would be removed; enterprise would thus flourish, and economic growth would follow (Thorns, 1992: 190). The underlying assumption was that by encouraging companies to develop derelict urban sites, 'a boost will be given to the entire local economy, leading to jobs and opportunities for the nearby residents" (Pacione, 2005). In Britain enterprise development zones were given effect by the Local Government Development Act of 1980, which encouraged the development of enterprises by means of four main measures, namely, exemption from development

land tax; 100% allowance for cooperation tax and income tax for capital expenditure on industrial and commercial buildings; the abolition of the industrial development certificates and a simplified planning regime so that all development conforming to a basic outline plan would automatically gain planning permission (Duncan and Goodwin 1988: 132). It can be discerned that the last measure is a clear movement away from mono-functional settlements based on manufacturing to ones based on multiple land uses in the face of economic restructuring.

3.6.1.3 Urban development corporations

Another tool to promote urban regeneration has been the establishment of Urban Development Corporations (UDCs). In the British context, UDCs denote the fact that many areas of public activity were privatized, large parts of government were hived off to executive agencies, and compulsory competitive tendering was imposed on local government (Cullingworth and Nadin, 2002: 26). This was given effect by the same Act that gave effect to Enterprise Development Zones, the Local Government Act of 1980. The Act enabled the Secretary of State to set aside the existing powers of local government with respect to planning, housing, public health and building controls and transfer these responsibilities to the UDC (Thorns, 2002: 191). The UDCs were made up of non-elected members from business and property development backgrounds and employed large sums of public money and owned large areas of land (*ibid*). The main UDCs that can be identified in Britain are the Merseyside and the London Docklands Development Corporation.

The London Dockland Development Corporation was established in 1981 was responsible for eight square miles, an area that needed redevelopment as a result of the decline of traditional ship building due to containerization (Thorns, 1992). According to Thorns the hindrances that were identified by the Corporation to the redevelopment of the area were that it had too many unskilled and old people and that the existing labor force had skills that were geared to traditional industries. It was therefore necessary to attract both new commercial activities and services and a different population (Goodwin 1991; cited in Thorns 1992). As such one the main strategies adopted was the diversification of land uses through the promotion of the service sector. Taking advantage of the area's proximity to the banking and financial centre of London, known as the City, the London Docklands Development Corporation (LDDC) transformed it into a large-scale development of offices, industry, shops and houses (Nagle, 200). The Docklands development has created employment in construction; financial and business services; distribution; hotels and catering; printing and publishing (ibid). According to Thorns (1992), the land developed by the Corporation was sold to the highest bidders which meant

that the original population of relatively low income residents were unable to buy it and the development potential was out of reach of the locals. Consequently, the population changed with an influx of new, service-class young urban professionals, more affluent workers who found the area a convenient location in the city.

3.6.1.4 Policies that seek to enhance the flexibility of regions and localities

It should be noted that one of the biggest shortcomings of urban regeneration programmes based on advanced service sectors of the economy such as banking and insurance, as well as high technology industries is that they fail to take into consideration the heterogeneous nature of the urban population. They also fail consider the nature of local labour markets and their regulation. Not everyone has the requisite skills to take up employment in the advanced service sectors and high technology industries. Most of the people whose skills were based on the manufacturing sector such as ship building and those who did not have sufficient education found themselves unemployable in the techno-economic era. While some areas are attracting concentrations of highly skilled, highly paid employment, entrenched joblessness or inferior forms of low-skill, low-wage work have dominated others (Martin, 2003). Martin therefore notes that within most European cities areas of mass unemployment, poverty, and social exclusion co-exist with areas of successful, high-income professional workers. Furthermore, Martin (2003) points to the fact that the increasing volatility of national economies due to global economic competition calls for the flexibility of local labour markets. He notes that, domestic prices of consumer goods, financial assets, and even labour are governed less and less by local and national events: they increasingly react to and reflect prices elsewhere in the global system. Therefore, flexibility is needed on the side of both employers and labour. For employers, this implies greater freedom to hire and fire workers, to use non-standard forms of employment (part-time, contract, casual, and temporary workers), to deploy workers readily across different functions and tasks, to individualize employment contracts, to dilute workers‟ rights, and exert much control and discretion over wages. For labour, on the other hand, it means deterioration in their working conditions and pay, compelling many to combine jobs in order to survive. Martin (2003: 466) argues that the specific characteristics and qualities of different individual local labour markets - the skills, productivity, wages, and work place attitudes of their workers - have assumed heightened importance in the locational strategies and decisions of multi-national companies in their search for competitive advantage in the global market.

It is in this context that Martin (2003) notes policy interventions among European states are based on regulating and deregulating local labour markets and decentralizing labour market policies in order to

increase the flexibility of regions and localities, whilst at the same time looking for ways to reduce expenditure on welfare and social security as part of their attempt to control public spending and taxation. One of the main strategies adopted to achieve this has been the workfare system. This was pioneered in the USA and is also being implemented in Britain. Martin (2003) points to the two key elements of the workfare programme. The first is that social benefits are conditional on compulsory participation in state subsidized work and training programmes, as the local unemployed have the right to state help and support, but also the responsibility to improve their „employability". The second feature is that it is typically local: the regulatory powers and institutional capacities for implementing workfare have been decentralized to the local level, to local partnerships of state employment agencies, local government, quasi-state, and even local private sector organizations whose interventions and activities are assumed to be closer to local labour markets and their specific employment problems (OECD 1999; cited in Martin, 2003: 469). However, Martin (2003) notes that this approach is only likely to bear fruit if accompanied by the growth of new jobs.

In this context local economic initiatives seek to moderate the impact of uneven development on depressed urban regions by focusing attention on the social costs associated with the unfettered ability of corporate capital institutions to move investments between global locations in search of maximum profit Pacione (2005: 342). Some of the major policies that were initiated include equity planning; linked development; popular planning; and promotion of the social economy. Equity planning entails a framework wherein planners working within government use their research, analytical, and organizing skills to influence opinion, mobilize underrepresented constituencies, and advance and perhaps implement policies and programs that redistribute public and private resources to the poor and working class (Metzger, 1996: 112). Linked development compels private investors and developers to include vulnerable groups in their investment plans and might include policies such as inclusionary zoning and the requirement that commercial developers hire labour from specific geographic areas and particular social groups (Knapp *et al*, 2008). Popular planning entails the formulation and implementation of community development through collaboration with deprived communities, local authorities and other stakeholders. Pacione (2005) points to the case of the Dudley Street initiative in Boston where a deprived community of 12,000 residents combined to create a politically effective organization that enabled the community to form a partnership with City Hall in which the people took on the responsibility for redevelopment. Promotion of the social economy entails supporting and recognizing groups engaged in the informal sector; this might take the form of encouraging cooperatives based on informal business.

3.6.2 Urbanization and urban growth during the techno-economic era

Just as the emergence of industrial capitalism towards the end of the 18th century had a significant impact on urbanization and urban growth, the emergence of the techno-economic paradigm also significantly changed these trends. During the 19th and early 20th century urbanization was characterized by the concentration of the population in a few primate cities that dominated the urban system due their role as major manufacturing centres. During the middle of the 20th century, there was a shift in the growth conurbations as primate cities merged with satellite towns; a development that was largely prompted by the suburbanization made possible by developments in public transport. With the advent of the techno-economic paradigm urban growth and urbanization was most impacted by the movement of industry and the population out of the main conurbations to small towns and rural areas owing to the environmental concerns resulting from congestion in the major conurbations. All these developments therefore had significant effects on urbanization and urban growth in Europe.

3.6.2.1 Criteria for defining urban settlement in the developed world

In terms of urbanization and urban growth in Europe, a distinction has been drawn between approaches based on administrative areas and those that have been specially devised for the study of urban-system change (Champion, 2002: 93). According to Champion, in Britain, for instance, the distinction between rural and urban areas has mainly been based on administrative areas designated local authorities. There are four main types of local authority areas which emanated from the sanitary and health districts given effect by the Local Government Acts of 1888 and 1894, namely, Rural Districts, Urban Districts, Municipal Boroughs and County Boroughs (in rising order of administrative status) (Champion, 2002). Urbanization and urban growth was based on people living in non-rural districts. However, the main problem was that the reclassification of the local authorities failed to keep pace with suburbanization that burgeoned in the first half of the twentieth century, largely due to developments in public transport, as noted in the previous section.

This definition of rural and urban settlements based on administrative criteria in Britain is parallel to that coined by the French Statistical Institute in 1954. The Institute‟s definition of urban agglomeration was based on a size of more than 2,000 inhabitants and a spatial continuity of less than 200 metres between two buildings, excluding areas where the construction of building was not allowed (Pumain, 2002). According to Pumain, the urban agglomeration expands over several administrative subdivisions (i.e. the communes) and a common distinction is made between the central commune (central town) and the surrounding communes which constitute the suburbs

(banlieue in French). However, the problem with this conceptualization of urbanization and urban growth in France was that due to suburbanization and developments in public transport contiguous urban centres that were mutually dependent on the central town were left out.

In the 1950s, in Britain, as increased mobility and suburban growth reinforced each other, and the construction of new roads began to make its own contribution to the centrifugal forces (Cullingworth and Nadin, 2002), the above mentioned criteria failed to keep pace with the rate of rural land use being converted to urban usage. As such, Local Authorities (LAs) were officially classified in terms of Criteria Other Than Administrative Status when the Conservative government restructured local government in the 1970s as a result of the aforementioned challenges. This led to the adoption of a two tier system for England, Scotland, and Wales based on regions and districts. According to Champion (2002), this became the norm for some types of statistical reporting and academic study after the reorganization of local government in the mid-1970s. For instance, Champin (*ibid*) notes that the Office of Population Census and Survey made a twofold classification of 403 districts of England and Wales based on a mixture of administrative and socio-economic data, with types ranging from Inner London Boroughs to Remoter, Mainly Rural Districts.

Another conceptualization of urban growth and urbanization in Britain LAs is based on Aggregating Contiguous LAs to Form Larger Territorial Units That Better Represent the Settlement Pattern. This is grounded in the phenomenon of conurbation where semi-autonomous urban areas merge into one, big urban centre. The effect was the division of Britain into metropolitan and non-metropolitan parts.

The above mentioned criteria were mostly designed by governments for day-to-day administrative purposes. As such they fail to capture the functional interdependence of settlements. These approaches are largely influenced by US-based research work by International Urban Research (IUR) which produced a set of comparable urban units (metropolitan areas (MAs) across the world, namely, city region, conurbation, urban field and ecumenopolis.

3.6.2.2 Urbanization and urban growth trends

What can be discerned from the European experience of the rural-urban dichotomy as the primary basis for understanding urban growth and urbanization is that the administrative criterion has been the primary factor. However, this criterion fails to capture the development of national and regional settlement systems; as a result, researchers devised criteria based on the functional interdependence of settlements in terms of the movement of people and the provision of services. For instance,

Champion (2002) notes that in Britain by 1971, the level of urbanization had fallen to 78.0%, from 80.8% in 1951 as the population spilled over the boundaries of these areas into the officially defined 'Rural Districts". This was regardless of the fact that this spillover population exhibited all the urban characteristics but the administrative one.

Since the emergence of the techno-economic paradigm, two main trends can be discerned in Europe in relation to urban growth and urbanization, namely, counterurbanization and re-urbanization. First witnessed in the United States (Beale 1975 cited in Boyle *et al,* 1998), *counterurbanization* was the term used to describe both the population growth that was occurring in non-metropolitan American counties and the population decline in the metropolitan counties during the 1960s and 1970s (Boyle *et al,* 1998; Pacione, 2005: 86). Signs of population reversal in rural areas were first identified in the US (Pacione, 2005), but several multinational studies have found similar patterns of counterurbanization in much of North West Europe, Japan, Australia, New Zealand and parts of Scandinavia (Berry, 1976a; Champion, 1989; Vining and Kontuly, 1978; Vining and Pallone, 1982 cited in Boyle *et al,* 1998; Pacione, 2005). In rural Britain, for instance, population growth was particularly strong in the late 1960s and early 1970s but has continued in recent decades, with net out-migration from the main metropolitan areas to the rest of the UK averaging around 90,000 people per year (Pacione, 2005: 86).

As in the previous epochs, during the post-industrial era the distribution of population across European countries was not even. It was biased towards the major urban centres, reflecting their dominant role in national urban systems in terms of service provision. For instance, from around 1950 about 10.11 million people lived in The Netherlands, a number that increased by 58% to 15.86 million in the year 2000 (Nijkamp and Goede, 2002). This population has not been equally dispersed as the largest concentration of people remained in the west of the country where the largest urban municipalities of Amsterdam, Rotterdam, The Hague and Utrecht are located (Prins and Verhoef, 2000 cited in *ibid*). The same applies to the United Kingdom where densities of more than 100 people per square kilometre are found in parts of the South East, the Midlands and the North West whilst in some parts of Scotland densities are less than one per square kilometre due to the remoteness of these areas and the harsh climate (Nagle, 2002).

Although the major urban centres have remained dominant in terms of overall population and densities per square kilometre there have been changes in the population distribution among different settlement typologies, and within them. In the case of The Netherlands this is revealed by changes in

the number and distribution of settlements of different sizes from 1950 to 1999 shown in Table 3.1 below. The table shows that smallest municipalities decreased from 624 in 1950, to only 20 in 1999; second category municipalities decreased from 314 in 1950, to 407 in 1980 and 292 municipalities in 1999 and categories 3, 4 and 5 increased, with category 3 increasing by one-third from 53 in 1950, to 167 in 1999 (Nijkamp and Goede, 2002: 193).

Table 3. 1: Number of municipalities related to categories of numbers of inhabitants in The Netherlands, 1950 - 1999

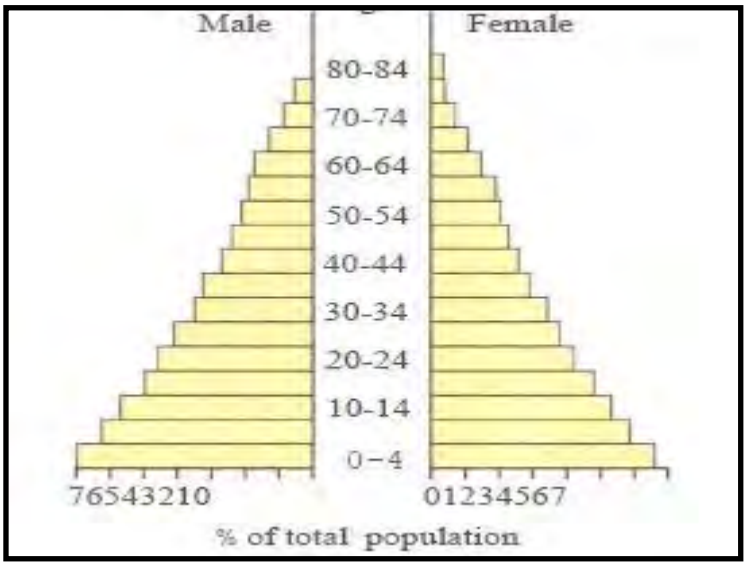
Number of municipalities	1950	1960	1970	1980	1990	1999
I: > 5000 inhabitants	624	556	406	246	105	20
2: 5000-20000 inhabitants	314	344	389	407	384	292
3: 20000-50000 inhabitants	53	61	78	114	130	167
4: 50000-100000 inhabitants	13	19	26	27	36	34
5: > 100 000 inhabitants	11	14	14	17	17	25
Total	1015	994	913	811	672	538

Source: compiled from CBS data cited in Nijkamp and Goede (2002: 193)

3.6.2.2.1 Demographic transition in the developed world

The change in population distribution and densities among European settlements also applies to the population composition among and within these settlements. Between the 1950s and the 1970s most European countries can be said to have been going through the third stage of the Demographic Transition Model. This stage is characterized by a drop in birth rates, but the death rate remains lower than the birth rate (birth rates typically are 20-25%; while death rates are 10-15%); as such population growth continues, although at a slower rate (Nagle, 2002). During this era gender issues fell within the ambit of the welfare modern state. Women were viewed within their traditional reproductive role and this status was reinforced through the provision of resources for them to become better mothers, such as family planning facilities. This stage is best represented by Figure 3.4 below. Figure 3.4 clearly indicates that the birth rate is still higher than the death rate as indicated by the wide base, suggesting a high birth rate and low death rates and therefore an increase in population through natural increase.

Figure 3. 4: Population structure in the developed countries between 1950 and 1970



Source: Nagle (2002: 230)

However, European countries did not remain in the Third Stage of the Demographic Transition Model for long. This is because conceptualizations of gender issues during the post-industrial society changed with the United Nations (UN) declaring the decade for Women from 1975 to 1985 to redress past discrimination against women. The UN recommended three actions, namely, legal equality for women, such as custody of children, access to land and control of their own fertility; improvement in the substandard role that women play in the economy and awarding an equal share of power to women. This dispensation sought to empower women through facilitating and encouraging them earn an income through active participation in the economy and income generating activities. Consequently, from the end of the 1970s Europe can be said to have entered the Fourth Stage of the Demographic Transition Model as its population became characterized by low birth and death rates, during which population growth rates fluctuates. As such the population changes in different settlements in Europe cannot be said to be the result of natural causes alone but the result of internal and international migration. Demographic transition in the United Kingdom (UK) provides clear testimony to this, as shown in Table 3.2 below.

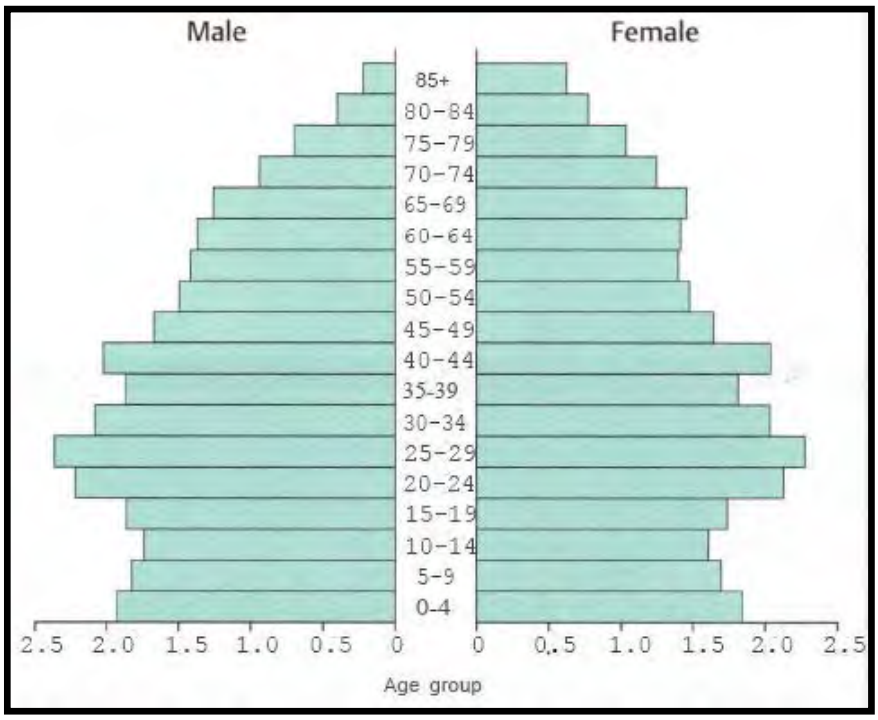
Table 3. 2: Population change by district type, 1981-91

District type	Population 1981 '000s	Overall change 1981-91		Natural change	Net Migration
		000s	%		
UK (United Kingdom)	54814	1392 9	2.5	1.7	0.9
Greater London					
Inner London	2550	77	3	4.4	-1.4
Outer London	4256	7	0.2	3	-1.4
Metropolitan					
Principal cities	4324	-185	-4.4	1.2	-5.5
Other districts	8702	-112	-1.3	2	-3.3
Non-metropolitan					
Cities	5598	49	0.9	1.7	-0.8
Industrial areas	7440	128	1.7	2.4	-0.7
New towns	2686	194	7.2	4.8	2.4
Resort ,port and retirement	3368	258	7.7	-4.7	11.4
Urban and mixed urban-rural	9840	524	5.3	2.4	2.9
More remote ,mainly rural	6051	452	7.5	-0.6	8

Source: Nagle (2002: 234)

Nagle (2002: 244) points out that Britain's population age structure for 1991 shows the effect of the 1962-66 baby boom as there were more 25-29 year olds and the 1970s baby burst, resulting in fewer 10-14 year olds in 1991. There has also been a dramatic increase in the older population in the UK, as reflected by the fact that in 1901 the proportion of the elderly was about 5%, but by 1971 the elderly accounted for 16.4% of the population and by 1991 this had risen to 18.4%. Furthermore, Nagle notes that the proportion of the very old (over 75 years) has been more dramatic, rising from 4.7% in 1971 to 7% in 1991, an increase from 2.6 million to 4 million (nearly doubling). This trend is demonstrated in Figure 3.5 below.

Figure 3. 5: Age structure in the UK in 1991



Source: Nagle (2002: 244)

3.6.2.2.2 Effects of demographic transition in the developed world on urbanization and urban growth patterns

Champion (2002: 100) places urban areas in Britain in large, middle-sized and small city categories so as to classify the British urban system on the basis of Geyer and Kontuly's (1993) 'differential urbanization' model and establish whether urbanization, polarization reversal (PR) or counter-urbanization predominates. As Table 3.3 illustrates, Champion aptly notes that by classifying the top three urban-status types as the large-city category and considering the rural areas to lie outside the system, it is found that Britain has been in the consistent grip of counter-urbanization since 1951. Furthermore, he notes that at the same time, the range of rates across the three city categories reinforces the observation above regarding the changing pace of the process, with only some six percentage points separating large and small city categories in the 1950s and 1980s, compared with around 14 in the two middle periods.

Table 3. 3: Stage of differential urbanisation, 1951-1991 for Great Britain

City category and DU model classification	1951-61	1961-71	1971-81	1981-91
Change rate (%for period)				
Large	2.1	-2.6	-7.1	-1.3
Intermediate	6.9	8.8	2	2.6
Small	7.9	11.6	6.4	5.1
Range of rate (% point)	5.8	14.2	13.6	6.4
Change rate ranking (l =high)				
Large	3	3	3	3
Intermediate	2	2	2	2
Small	1	1	1	1
DU model classification				
Pattern	CU	CU	CU	CU
Stage	V	V	V	V
Notes: City categories are based on the hierarchical levels in Table 5.1: Large comprises London Dominant, Conurbation Dominant and Provincial Dominant; Intermediate comprises Cities; Small comprises Towns. U Urbanization, PR Polarization Reversal, CU Counterurbanization.				

Source: Champion (2002: 100)

The urbanization and urban growth trends in Britain, namely counterurbanization, also hold true for other European countries. This observation is based on an analogy of urbanization and urban growth in France based on the notion of *aire urbaine;* an allusion to the fact that contiguous rural and urban settlements can be linked to a main „urban centre" without necessarily being linked by a continuous built environment. As such the French experience of urbanization and urban growth is comparable to the British one, where the CURDS framework of classifying settlements based on Functional Regions (FRs) appreciates the workings of settlement systems. Based on this framework, Pumain (2002) notes that in France, the deconcentration of the urban population started with a decrease in the population in urban centres and an increase that in their suburbs and rural peripheries.

The main fact that emerges from Pumain"s (2002) analysis of urban growth and urbanization in France from the 1950s is that the French settlement system has undergone four stages, namely, urbanization (growth of the urban core); suburbanization (faster growth of the traditional suburbs than the core); counterurbanization (faster growth of the outer urban ring than the urban core and traditional suburbs in order of skewedness towards suburbs) and reurbanization (renewed growth of the urban core). Pumain notes that when differentiated according to the urban centres (the main commune), traditional suburbs (communes of the *banlieue)* and the outer urban ring the demographic evolution remains very consistent since the migration turnaround in 1975: the further away from the centre, the higher the average growth rate. He observes that during the fastest growth of urban sprawl between 1975 and 1982, the relative evolution of urban centres, suburbs and outer

urban rings was very different: the mean annual population growth rates of the urban centres were negative, while those of the suburbs were slightly positive and those of outer rings were the highest. He further argues that since 1982, the decrease in population in the urban centres has become less important, while more recently the evolution has even become positive again, whereas the growth rates of the suburbs and the communes in the outer rings are decreasing.

Urbanization and urban growth trends in France and Britain are relatively comparable to those in The Netherlands. Nijkamp and Goede (2002) confirm this based on the CBS classification of settlements into category A - rural municipalities, category B - urbanized rural municipalities, and C - urban municipalities. Dutch population changes since 1950 are shown in Tables 3.4 and 3.5 below. From Nijkamp and Goede tables, it can be discerned that from 1950 to 2000 the share of the population living in rural areas declined relative to the population of urbanized rural municipalities. The population of the urbanized rural municipalities increased at a faster rate than urban municipalities. Nijkamp and Goede note that whereas in 1960 more than 20% of the Dutch population lived in urbanized rural municipalities, in 1990 this share had increased to almost 38%. They also point to the fact that in absolute terms, the number of people living in urbanized rural municipalities has more than doubled from 3,201248 to 5,643381 inhabitants.

Table 3. 4: Population size and density development for the period 1950-2000

Population	1950	1960	1970	1980	1990	2000
Total	10026773	11410843	12953731	14091014	14892574	15863950
Density/km2	309	352	384	415	439	468

Source: Compiled from: CBS data cited in Nijkamp and Goede (2002: 190)

Table 3. 5: Population and shares of municipalities by degree of urbanization, 1950-90

Population	1960	Share	1970	Share	1980	Share	1990	Share
Rural	2800463	24.54	2843908	21.95	1638994	11.63	1681187	11.29
Urbanized rural	2442133	21.4	3271385	25.25	5116284	36.31	5643381	37.89
Urban	6168247	54.06	6838438	52.8	7334190	52.06	7566370	50.82

Source: Nijkamp and Goede (2002: 191)

Studies on the workings of the Dutch settlement system are based on the classification of the Dutch settlements by van den Berg *et al* (1987), who identified the four categories previously explained in detail, namely, 'cores' (which correspond to 'urban municipalities' - category C under the administrative classification in the Dutch administrative classification of settlements), 'rings' to 'urbanized rural municipalities' (category B under administrative classification), 'agglomerations' (a

combination of B and C) and rural areas. Based on this classification of settlements in The Netherlands and on the study by van den Berg *et al*, Nijkamp and Goede (2002) observed that urbanization dominated the 1950s and suburbanization dominated the 1960s and 1970s before it started slowing down towards the end of the 1970s. This is shown in Table 3.6 below.

Table 3. 6: Annual growth rate of 24 selected Dutch agglomerations as a % of the total agglomeration population, 1950-1982

Location	1950-1960	1960-1970	1970-1974	1974-1978	1978-1982
Cores	0.82	0.19	-0.66	-0.47	-0.1
Rings	0.51	0.81	0.9	0.64	0.51
Agglomerations	1.32	1	0.24	0.17	0.41
Netherlands	1.38	1.35	1.03	0.75	0.7

Source: derived from van den Berg *et al,* (1987 cited in Nijkemp and Goede, 2002: 197)

3.6.2.2.3 Migration patterns in the developed world during the techno-economic era

Counterurbanization

There are two main explanations of counterurbanization: economic factors and quality life concerns related to migration in the developed world. Economic accounts explain trends towards counterurbanization and point to the new spatial division of labour (NSDL) brought about the techno-economic paradigm; these portray counterurbanization as a job-led phenomenon. Thus rural-urban migration is considered to be motivated by the need for employment, especially in developed countries. Movement within ILMs together with movement into firms by managers has been cited as a big contributor to population growth in rural areas (Fielding, 1990, cited in Boyle *et al*, 1998). The main reason cited for such movement is movement away from *regional sectoral specialization* (RSS), where similar industries are clustered spatially (such as the textile industry in Lancashire, England), to a NSDL, where the choice of geographical location is more flexible (Boyle *et al*, 1998: 100). Since this is a manifestation of the shift from Fordist mass production, small industries have relocated in remote rural areas where labour is largely female and unlikely to be unionised, and where low land rents and improved services and communications in the periphery makes them more attractive than urban areas (Massey 1984, cited Boyle *et al,* 1998). This trend means that firms are unlikely to be able to recruit senior employees in peripheral areas, but they are likely to move with the firm into these rural locations (*ibid*).

Nevertheless, Boyle *et al* point out that this is a lopsided argument as counterurbanization has also been characterized as being people-led, where a widespread preference for rural living is actively played out, assisted by an improved transport infrastructure and level of personal mobility. They

point to studies that build on surveys conducted by researchers such as Fuguitt and Zuiches (1975) and Blackwood and Carpenter (1978); these detailed popular associations between the countryside and various high quality of life indicators: environmental quality, lack of crime and criminality, a sense of community, a lower cost of living and a suitable environment for raising children, to emphasize the role of quality of life considerations in counterurbanization.

A study by Murdoch and Marsden (1994: 75-83) cited in Boyle *et al* (1998: 142) also points to the importance of quality of life considerations in counterurbanization. Murdoch and Marsden set out to ascertain the reasons why residents settled in a new settlement of Watermead, on the edge of the town of Aylesbury in the county of Buckinghamshire in south east England. Watermead, they note, was a new development supported by planners, local politicians and the private sector that openly and self-consciously marketed itself to incoming residents in terms of a high quality of life, targeting young and higher socio-economic group adults. This development was the outcome in the mid-1980s of the failure of the Aylesbury Vale District Council to identify sufficient land within its area of jurisdiction to fulfil its need for new housing. Permission was subsequently given to a private developer to construct 800 houses on a largely self-contained site just outside Aylesbury town. It is noted this development was characterized by prestigious executive housing, which, the planners hoped, would ease demands for such housing in surrounding villages. Murdoch and Marsden (1994: 75-83) cited in Boyle *et al* (1998: 142) note that the quality of life aspects of this new housing development that came out strongly in the publicity and marketing material were, 'the perfect location for a way of life you previously only thought available when you are on holiday'; 'entering another world'; 'the warmth and charm of a traditional Edwardian village'; 'timeless designs'; 'distinctive village square, with its pink and cream-painted pub, restaurant and shopping mall, set around an attractive piazza.'

The results of the survey by Murdoch and Marsden among residents in the socio-economic group 1-3, of whom 70% were in the age group 25-44 revealed that 26% came from Aylesbury town and 31% from elsewhere in Buckinghamshire, displaying a clear local bias; 'housing type' was cited by 29% of residents as the principal reason for moving there, compared with 22% who cited 'work', 21% who cited 'environment' and 21% who cited 'marriage'. This illustrates the importance of quality of life considerations in counterurbanization. Thus, the lure of the countryside appears to drive much counterurbanization; however, but it should be stressed that this migration option is highly dependent on a secure and relatively well-paid job or some other substantial level of regular income (Boyle *et al,* 1998).

Boyle *et al* (1998) observe that counterurbanization has also become prevalent in the more remote countries of Europe, where quality of life factors play an important role. They point to Vartiainen (1989a, 1989b), who describes how in Finland, a socio-cultural counter-trend emerged to the urban-oriented Great Move economic restructuring-linked migration trend of the 1960s. They note that although not a mass phenomenon, migration away from the larger towns, fuelled by incomes earned during the Great Move, reflected a desire among households for private housing on their own land and romantic notions of a peasant spirit. They note that the ability of Finns to move out of the cities was facilitated by tax and housing policies, which favoured owner occupancy, and the weak building controls in rural areas. Thus it was found that obtaining a home of their own was an important migration motivation for young Finnish families coming into the town, while urban-to-rural migration among older residents was more likely to reflect a desire for country life (Paasi and Vartiainen, 1981 cited in Boyle *et al*, 1998). This reflects the importance of residential preferences in counterurbanization.

Re-urbanization

Another significant pattern of migration in the developed world is linked to re-urbanization largely underpinned by gentrification. Gentrification is migration back to certain areas of the inner city that is highly selective in nature and favours young and affluent single people or couples without children. Gentrification arise from a situation where original occupants of a middle class neighbourhood in the inner city area move out as their incomes increase, to be replaced by households with successively lower income (Pacione, 2005). The outcome is deterioration and overcrowding due to further in-migration in a bid by the lower income families to make up for the rent that landlords demand. Landlords will in turn step in to curb further deterioration of neighbourhoods through redevelopment which in turn leads to gentrification.

There are various explanations for gentrification, which include the production-side explanation which emphasizes the role of the state in encouraging gentrification and the importance of financial institutions in selectively providing capital for regeneration (Pacione, 2005). However, the post-modern explanation identifies culture as the chief exponent of gentrification by acknowledging the role of culture in residential choice (*ibid*) making quality of life a driving force behind inter and intra-urban migrations and gentrification in particular. Almost all explanations of gentrification point to perceived opportunities in the newly redeveloped place as the key force attracting the middle class

to the inner city areas regardless of the perceived opportunities marketed by the property owners or independently perceived by consumers (Boyle *et al*, 1998; Pacione, 2005).

Ever since the term „gentrification" was introduced by Glass in 1964 after observing the middle class replacing the working class after the redevelopment of inner city neighbourhoods in London, Britain, in the mid-1960s the phenomenon has been ubiquitous in the developed world in cities of all sizes (Smith and Williams, 1986; Van Weesep, 1994; Van Weesep and Musterd, 1991; Zukin, 1987 cited in Boyle *et al,* 1998; Pacione, 2005). It generally involves the renovation of existing dwellings, although the term can be expanded to large-scale new developments, such as in London's Docklands (Short, 1989 cited in Boyle *et al*, 1998).

Boyle *et al* (1998) note two key social trends that explain urban gentrification in the past decades. The first was the restructuring of the economy and the growth of professional, managerial and other higher-level white collar occupations at the expense of blue collar jobs. The second was an increase in paid employment among women, a trend that often intersects with the growth of the service class, as many of these new jobs require high levels of qualifications. Consequently, this period also witnessed the growth of service class households that remained childless, in part so as not to jeopardise either partner's career. Gentrification has been strongly linked to these trends (Williams, 1986, cited in Boyle *et al,* 1998) and thus there has been the growth of a new middle class or *service class* (*ibid*). Evidence from across Europe and the USA points to the typical profile of gentrifiers as young adults, typically dual-career, living in small households; in the United States, they also tend to be white and from the greater city area rather than from further afield (Le Gates and Hartman, 1986; Smith and Williams, 1986; Zukin, 1987 cited in Boyle *et al*, 1998; Pacione, 2005).

It should be noted that initial gentrification is fostered by economic considerations as the properties purchased are typically a good investment (Beauregard, 1986; Short 1989 cited in Boyle *et al,* 1998), but this gentrification is underpinned by the cultural value of a gentrified neighbourhood, since gentrification typically does much to satisfy the consumption needs of service class and/or dual-income households (Boyle *et al,* 1998).

International migration

Another factor that has significantly shaped urban growth and urbanization in Europe since the 1960s is the changing nature of international migration, as illustrated by the significant population of ethnic

minorities in Europe. After the Second World War international migration was dominated by post-colonial migration.

During the *post-industrial* period of migration which spans approximately from the mid-1960s, the scope of international migration was very different from previous epochs. According to Massey (2006), during this period, instead of international migration bringing people from the densely populated countries of Europe that were rapidly industrializing, it became characterized by the movement of people from sparsely settled countries in the earliest stages of industrialization to densely settled post-industrial societies that had achieved full development. In the late 1960s, the diffusion of post-Second World War economic growth, the rising aspirations of educated European workers and greater social mobility, which allowed more Europeans to access white-collar work, combined to create a vacuum at the base of the occupational hierarchy that could not be filled by local labour (Boyle *et al*, 1998; Massey, 2006).

As such Europe became a net importer of foreign labour with most European countries adopting positive or permissive policies towards the recruitment of foreign labour (Boyle *et al*, 1998; Massey, 2006). For instance Boyle, *et al* note that Germany adopted a guest worker system wherein young workers from Turkey, Yugoslavia or North Africa were permitted to enter Germany and work for a limited period; they were expected to repatriate when the demand for their labour decreased. By 1973, there were more than 2.6 million guest workers in Germany, with concentrations in particular industries, cities and residential quarters (O'Loughlin, 1980; O'Loughlin and Glebe 1984, cited in Boyle *et al*, 1998).

However, a turning point for international migration occurred during 1970s, when the oil price increased, negatively impacting the manufacturing sector and sharply reducing demand for labour. Economic arguments against further labour migration became entwined with other attitudinal shifts, which reflected growing unease about the presence and growth of communities of 'visible' minorities; barriers were erected to curb further mass labour migration, and existing minority groups were put under pressure to leave (Boyle *et al*, 1998). For instance, in Germany there was a complete halt in further guest worker recruitment (Castles, Booth and Wallace, 1984, cited in Boyle *et al* (*ibid*); nevertheless, in most European countries, the size of 'foreigner populations' continued to grow, as successful labour migrants were joined by their families – the process of family reunion (*ibid*).

The situation remained virtually the same in the 1980s, save for the perpetuation of ongoing trends of patterns of international migration. Nevertheless, three forces reshaped international migration, namely, the demise of one of the world"s two super powers, the former Soviet Union, signalling the end of the cold war; the globalization of business activity and production systems; and an increase in economic inequalities within and between regions, nations and international blocs (Boyle *et al*, 1998; Massey, 2006). Developed countries tightened immigration controls, seeking only to attract skilled labour, and the intensification of the globalization of business activity ushered in the new international division of labour which relocated employment opportunities in the manufacturing sector from developed to developing countries. As such many developing countries themselves become centres of economic growth and immigration (Boyle *et al*, 1998).

It can be discerned from the international migration patterns and trends that there is no single factor to explain international migration; rather, a range of international movements have dominated the history of nation states depending on the dominant social, economic and political thinking of a particular epoch. This strengthens the case for a synthetic theory to account for international/internal migration that is advanced by the likes of Massey (1998), Boyle *et al* (1998), Kok *et al* (2003); Gelderblom (2006) and Massey (2006). Modern international migration, manifested by colonization and the subsequent enslavement of Africans as plantation labour can be attributed to both socio-economic and cultural factors. The colonization of Africa, Latin America, North America and India can be attributed to the Europeans" quest for raw materials to support their industrial revolution which is a purely economic reason, as the classical and neo-classical accounts of migration purport. On the other hand, there were also religious reasons for colonization, as the bid to spread the word of God (Christianity) to „pagans", an argument that is not accommodated by classical/neo-classical economics.

Furthermore, the migration of labour to the Persian Gulf States after the rise in the oil price can be attributed to increases in wages and employment opportunities, an argument at the heart of neo-classical economics of migration. International migration has also been perpetuated by improvements in transportation and communication technologies throughout history. As the world systems theory notes, international migration has followed well-established lines of communication and the flow of goods. Labour market bifurcation is also highly prevalent in some global cities. Unable to attract local workers, employers turn to immigrants and often initiate immigrant flows directly through formal recruitment, as the segmented labour market theory notes. Another factor is that even though individuals might be willing or unwilling to emigrate the materialization of their wishes may be

determined either by the policies of their motherlands or their host countries. The global presence of refugees also shows that some people are left with little choice but to stay in the receiving country. This all points to the fact that no single theory can fully account for international migration; a synthetic approach is more viable.

3.6.3 Synopsis of urbanization and urban growth in the developed world during the techno-economic era

In terms of urbanization, Europe can generally be said to have reached the fourth stage of the demographic transition model characterized by population growth rates close to zero as birth rates and death rates are low. The main reason for the decline in birth rates is the emancipation of women from their traditional roles as child bearers and rearers; with the emergence of the techno-economic paradigm, more and more women are participating in the service sector. In terms of urban growth, one can also note that Europe has generally reached the small city phase as revealed by the fact that although large metropolitan areas such as London in England and Paris in France, still dominate national urban systems in terms of population and job opportunities, there are also other rapidly growing small and intermediate size secondary and tertiary centres. Nevertheless, this explanation of European urban growth in terms of the broader urban spatial framework does not explain urban growth in terms of growth within individual urban centres. In terms of the model of growth within individual urban centres since the end of the 1990s, Europe can be said to have been in the last stage of the model, the reurbanization stage. From the end of the 1960s, there were clear signs that urban agglomerations such as London and Paris were losing population to intermediate and small towns due to counterurbanization. However, at the turn of the 20th century and since the late 1990s there were signs that large urban agglomerations were starting to regain population even though their outer rings are still losing population. This can by be explained largely by gentrification due to urban regeneration programmes in the core of cities. In this regard, the future challenge for bigger metropolitan areas in Europe lies in the outer rings (suburban locations).

For instance, Nagle (2000: 286) notes that there are two 'new' urban problems that are affecting British urban areas - the need for more homes, largely on Greenfield sites, and the decline of Britain's suburbs. Nagle notes that the government has estimated that some five million new homes will be needed in the UK by 2016, despite the lack of population growth. This is because of changes in the traditional household structure, the nuclear family, and the emergence of single households, partly as a result of increased participation in the economy by women. In relation to suburbs, Nagle (2000) notes that those around large conurbations are showing signs of decline; inner cities have

attracted a great deal of attention and funding and there has been a lack of attention and funding directed towards the suburbs. Furthermore, Nagle notes that the other major problems facing suburbs are the decline of their local shopping centres because of the growth of superstores and high rates of car ownership which allow residents to shop further from home.

It has been noted that the emergence of the techno-economic paradigm changed the functional role of European settlements from one that was largely influenced by difference to one largely influenced by differentiation and heterogeneity. This also simultaneously impacted on urbanization and urban growth in Europe as well as demographic composition. In a similar way the morphology of European cities was greatly affected.

3.6.4 Morphology of cities in the developed world during the techno-economic paradigm

When the techno-economic paradigm emerged roughly at the end of the 1960s, the morphology of European cities was better represented by the urban realms model advanced by Vance in 1964. The model reflects a metropolitan where each realm is a separate economic and political entity linked to form a large metropolitan framework. Suburbanization from the 1930s to the 1960s saw the location of big industrial parks, office complexes, hotels and restaurants and major sports league stadiums around key freeway intersections to form edge cities. The underlying cause of this spatial arrangement of cities was the urban political economy paradigm. The decade after the Second World War can be described as the golden era of western capitalism as manufacturing industries flourished and amassed huge profits. As such urban political economists argue that it was necessary for the state to create demand among individual consumers for such things as private cars, white-ware, housing and roads, making suburbia the idea form for the expansion and stimulation of consumer demand and the creation of landscape consumption (Zukin, 1991 cited in Thorns, 2002: 34). Private consumption was encouraged by the dispersed city structure characterized by owner-occupied housing on its own plot of land, whilst collective consumption was encouraged by the extension of services such as health care, education, transport, parks and recreation spaces promoted by the growth of welfare state social democratic policies from the 1930s and 1940s to the 1960s (Dunleavy, 1979 cited in Thorns, 2002).

Towards the end of the end of the 20th century, when the techno-economic paradigm became fully fledged the urban realms model and affiliated urban political economy paradigm were no longer adequate to represent the urban spatial form and explain its underlying forces. The morphology of cities was changed as a result of deindustrialization, the emergence of the service economy, a

decrease in family size, an increase in minority and ethnic populations and urban regeneration programmes. As such the morphology of European cities is best represented by White‟s model of the 21st century city which consists of a CBD housing major banks and financial institutions; pockets of poverty and minorities; elite enclaves and industrial anchors and public sector zones made up of industrial parks, universities; R&D facilities; corporate headquarters and hospitals. The functional role of settlements became largely influenced by heterogeneity. As has been noted earlier, most cities engaged in urban regeneration whose basis was property development, cultural industries and urban tourism. Strategies included industrial clustering and the development of high-technology industry as a way of enhancing their appeal to international investors in the context of competition. The main vehicle for promoting urban regeneration has been public-private-partnerships as in the case of UDCs and EDZs in case of Britain and strategic projects in the case of Plan Zuidas in Amsterdam, The Netherlands; the Universal Forum of Cultures 2004 in Barcelona, Spain; and the City of Science, Technology and Media in Berlin Adlershof, Germany. As has been noted when these mainly market-driven urban regeneration projects failed to reach out to the marginalized communities in cities, community-led regeneration started to be embraced alongside these market-driven activities. The most notable include targeted development, popular planning, and equity planning policies. These policies placed communities at the heart of the formulation and implementation of land use decisions through community-based organizations like Community Development Organizations (CDC). Furthermore, local exchange systems and the black economy were also encouraged as a way of embracing those who could not be included in the formal economy. As such it can be discerned that by the turn of the 20th century the built environment in cities became a product of panoply of actors, namely, property developers, government, international investors and community-based organizations. The underlying explanation for the morphology of the city in the 21st century therefore lies in the post-structural paradigm. This paradigm acknowledges the socio-economic changes brought about by the techno-economic paradigm in the labour process, ideology and the state. The labour process is dominated by highly-skilled technological workers; ideology is dominated by individual choice and life style; and the state has moved away from welfare provision to promoting privatisation. In this context the built environment is the outcome of interactive relationships and discourses from the main stakeholders of urban governance.

3.7 Conclusion

This chapter sought to provide a holistic analysis of settlement patterns and trends in Europe. It is based on the synthetic theory of settlements developed in the conceptual theory in chapter two whose

key tenets are settlement function; morphology (spatial expression) and population clusters. The underlying rationale is that once countries advanced in terms of socio-economic development, they experienced the problems that come with the early stages of industrialization.

4. Chapter Four: Settlements Patterns and Trends in the Developing World

4.1 Introduction

This chapter is based on experiences from developing countries in South America, Asia and Africa as they are relatively in the same epoch of socio-economic development as South Africa. This will facilitate learning from relatively similar experiences. Furthermore, in the era of globalization, South Africa is linked to all the various parts of the world, and as such developments in these regions inherently affect settlement patterns and trends in the local context. As in chapter three the framework of analysis is the synthetic theory of settlement patterns and trends developed in chapter two whose structuring elements are function, population and morphology. An evolutionary approach is adopted as it has long been established that settlements develop within a social formation, without break, by a duplication of the elements of a preceding social formation (Susser, 2002: 20).

4.2 Settlement Function

4.2.1 The Service centre role of settlements during the colonial era

Most of the countries in the developing world, especially in Africa were colonized by Western powers at the turn of the 19th century. During the colonial era settlements functioned as service centres; their establishment and location was influenced by the demand for administrative and service functions. Their location and function therefore can best be accounted for by the classical central place theory of Christaller and Losch in 1933 and 1954 respectively which argues that the demand for central functions which are influenced by population thresholds and range (distance) is the driving force behind the emergence of centrally located settlements to serve their own population and the surrounding areas. This is largely reflected in the notion of service centre planning which has been employed in regional settlement planning in the developing countries. Although this concept emerged in the second half of the 20th century some of its underpinnings can be seen at work in the establishment of colonial cities. The concept of service centre planning refers to the process of factually ascertaining the socio-economic needs of households, villages or towns, leading to the establishment of service centres as focal points for providing socio-economic services such as trade, transport, communication, agricultural inputs, finance and administration.

In most developing countries, cities were established as service centres for the colonial economy largely based on natural resource exploitation and agriculture. Knox *et al* (2003: 250) note that territorial conquest, with or without the elimination of indigenous peoples, and the planting of either

settler enclaves or slave plantations and mining enterprises were the major feature of European expansion throughout the eighteenth century. They further note that both territorial (colonial) and international (commercial) forms of capitalist expansion entailed a forcible transformation of pre-capitalist societies, internally disarticulating them and externally integrating them into the world economy. Colonial economies mostly engaged in monoculture, growing crops such as tobacco, rubber and cotton for the world economy at a relative comparative advantage. In this context towns and cities were established in a hierarchical fashion as national, provincial, district and local service centres providing agricultural and ancillary services to populations largely dependent on agriculture.

A classic example is that of Zimbabwe in Africa, formerly Rhodesia during British colonial rule. The development of the modern space economy of Zimbabwe was greatly influenced by the discovery of the Witwatersrand goldfields in South Africa which prompted the British government to yield to long-time expansionist yearnings to move further north in anticipation of goldfields which Hartley and Mauch had exaggeratedly written about in the late 1860s (Rambanapasi, 1987). However, when the amount of gold deposits did not live up to the expectations of the colonialists, the colonial settlers developed an economy based on maize, cattle, tobacco, citrus, etc, in addition to the mining of relatively small amounts of gold and other minerals such as coal, nickel, asbestos, etc. In an economy largely dependent on agriculture the development of settlements was prompted by the need to link agriculture with an industrial market; as we shall see later this linkage determined the structure of urbanization, urban development and even regional delimitation policies based on the concept of urban spheres of influences (Rambanapasi, 1987: 54). Rambanapasi also notes that the hinterlands that constituted urban spheres of influence were really those of European rural land, with Africans excluded from the definition of the urban sphere of influence. The outcome of this racially restricted definition of sphere of influence, as Rambanapasi notes, was the development of massive interurban inequalities and a paradoxical situation in which provinces heavily populated by Africans, such as Masvingo, with a small white rural community, developed very small urban centres. On the hand, provinces with larger white agrarian communities and a sparse white population developed primate cities such as Harare (formerly known as Salisbury) and Bulawayo.

Another example of settlements that whose development was influenced by their function as service centres is that of Israel. Pacione (2005: 130) notes that an Israeli settlement on the Laklish plains to the east of the Gaza Strip was based on the three level hierarchy: „A" settlements of various types including (protective border *kibbutzim*) housing migrant settlers and serving as agricultural centres containing facilities used daily; „B" settlements (rural community centres), each planned to serve four

to six „A" settlements and to supply facilities and buildings used once or twice a week; and „C" settlements (regional centres), towns roughly at the geographical centre of their region, providing administrative, educational, medical and cultural facilities, with factories for crop processing.

4.2.2 The influence of difference on the functional role of settlements during the colonial era

The socio-economic function of some settlements that were established during colonial times was not necessarily to provide central services and functions even though their economies were based on agriculture; hence their location was not necessarily influenced by population thresholds and range. For instance, in the case of India which was under the British colonial authority for the period spanning 1773-1947, British settlers engaged in the commercial farming of wheat, rice, sugarcane and animal husbandry. During the pre-colonial era Indian cities were interior, but with the advent of colonialism the British built new coastal cities to handle exports and imports from Britain (Government of India Planning Commission, 2007). Therefore their location was influenced by the availability of navigable waters. The same applies to cities such as Mombasa in Kenya and Cape Town and Durban in South Africa. Therefore these cities functioned as global centres of trade and commerce. Some towns and cities were established due to the location of natural resources such as minerals like coal, gold, and copper in Johannesburg and Springs in South Africa and Hwange in Zimbabwe, to name but a few. The core function of these cities and towns was natural resource extraction, although most of them ended up also functioning as service and manufacturing centres.

4.2.3 The functional role of settlements in post-colonial Africa

4.2.3.1 Influence of multinational corporations

The process of decolonization meant that colonial preserves of European powers were opened up to American capitalism where the oligopolistic corporation plays a more central role than in French and British capitalism (Rambanapasi, 1987). The emergence of the United States as a dominant force and the growth of the Soviet Bloc undermined the monopoly of political control exercised by the European powers over large parts of the world (Knox *et al*, 2003). In West Africa for instance, Vernon (1959); Chudson (1964); Barrat-Brown (1963); and Baran and Sweezy (1966) (cited in Rambanapasi, 1987) note that the oligopolistic behaviour encouraged the formation of consortia in mineral extraction and processing. Thus decolonization often resulted in the out flow of small scale competitive capital and the in-flow of corporate capital, especially in the mining and manufacturing sectors and commercial agriculture. Plantations and extractive industries were sometimes supplemented by labour intensive manufacturing that took advantage of cheap colonial labour (Knox

et al, 2003). Therefore the function of settlements could no longer be explained by the central place theory and theories of difference based on comparative advantage due to natural resource endowments alone.

It should be noted that investment by multi-national corporations in developing countries was not without its limitations. Multinational corporations could not develop extensive manufacturing sectors in the host developing countries as mass production had proved inefficient in the parent countries (Rambanapasi, 1987; Harrison, 1998). Multinational investment in developing countries took the form of a vertical hierarchically organised intensive economy characterized by spatial concentration in a few cities and regions, thereby creating massive regional inequalities (Rambanapasi, 1987). This led to concerns about spatial imbalances as a few primate cities dominated urban systems causing problems with congestion and political concerns about equity. In the period after the Second World War developing countries took the leading role in slowing down the growth of large cities, to decentralize growth, promote the growth of secondary cities, to expand agricultural service centres or to generate industrial growth complexes (Richardson and Townroe, 1986). Measures taken included include cash subsidies to capital and labour, indirect protection from the tax system and import controls, the allocation of public sector investments, intervention in the location of public sector employment, licensing arrangements, the sponsorship of growth centres and new towns, and administrative decentralization (Richardson and Townroe, 1986; Harrison, 1998). Some notable examples included the creation of new capital cities in depressed areas as in Brasilia in Brazil, Lilongwe in Malawi and Dodoma in Tanzania.

4.2.3.2 The influence of the techno-economic era

The emergence of the techno-economic paradigm had a profound effect on the function of settlements in the developing world as it led to the increasing integration of the economies of developing countries in the global economy. By the turn of the century, in most developing countries regional policies had been usurped by the neo-liberal policy dictates of multi-lateral institutions as the IMF/World Bank. Before the 1980s and the debt crisis, the World Bank devoted the majority of its resources to project lending (Becker and Morrison, 1999). After the 1980s it shifted to structural adjustment loans conditional on governments‟ willingness to pursue trade reforms (liberalism), reform of public enterprise through privatization and fiscal austerity in public spending. Across the Third World, the 1980s were been characterized by the debt crisis and structural adjustment lending subject to rigid conditions imposed by the IMF and other major donors (Simon, 1990: 4). As such the

financial centres of global capitalism in the „North" have arguably been in a position of unparalleled strength since decolonization, to dictate development terms in many parts of the Third World (*ibid*).

Structural adjustment programmes resulted in competitiveness moving to the forefront of developing countries" economic policy objectives in the context of intensifying global economic competition due to liberalism. Differentiation became a major factor that determined the role of cities in the globally interconnected world. Some of the main policies adopted by developing countries in order to enhance their competitiveness fall within the regionalist school of thought and have internal and external orientations due to the involvement of multiple stakeholders which include local and national governments, multi-lateral institutions, donor agencies, local communities and global and local elites. Some of the strategies adopted in large developing countries" cities such as Johannesburg, Cape Town, and Durban in South Africa include urban regeneration projects, the provision of an intelligent transport system (ITS), the establishment of high tech development zones, free economic zones, one-stop investment promotion, and multi-sector coordination of regional development.

Development of high technology industries

The aim of developing high technology industries is to enhance the competitiveness of industries, products and technologies in a globalized world where economic competition has intensified. The mode of implementation has been partnerships among different government levels, the private sector, and international organizations. The development of technopoles has been a feature in developed countries such as Brazil, Chile, Argentina, Malaysia, and Venezuela. A key feature of these developments has been public and private partnerships to create innovative environments and building synergies among agents with complementary capabilities such as universities, local and regional governments and private firms (Quandt, 2010). Quant notes that the development of technopoles provides opportunities for students, employment, technology transfer, income generation (royalties, endowments) and opportunities to apply technology at a regional level. For the firms involved it is an opportunity for easy access to skilled labour, facilities and information sharing. For local and regional governments a technopole enhances business activity, personal, corporate and property taxes, employment creation in high tech industries and also attracts other public and private investment.

Free Economic Zones (FEZ)

The creation of Free Economic Zones (FEZ) initially focused narrowly on the attraction of foreign investment; with the intensification of global economic competition their scope broadened to include technology transfer, management skills, strengthened linkages with domestic industry, and broader regional development (Chen, 1995, cited in Harrison, 1998). This is facilitated by the demarcation of areas within cities where cumbersome development procedures are set aside for export-oriented firms seeking to invest. Other incentives include the provision of physical infrastructure by governments, support services and tax incentives. The mode of implementation has largely been through PPPs as the case of Panama, Indonesia, Mauritania, South Korea, Thailand and Singapore.

The implications for the function of cities are denoted by the term „virtual technopolis". This captures the creation of virtual working environments that only exist when needed and are made possible by the use of ICT, specifically in the context of the World Wide Web (WWW) and internet (Quandt, 2010). Globalization and liberalization have turned cities into junction points for movement of goods, capital and people and allowed for the switching of gear for the transfer of information (Government of India, Planning Commission, 2007).

Bottom-up approaches

Investments in high technology industries failed to tackle the problem of poverty in most developing countries. Cities in the Third World face a myriad of problems, namely, high unemployment rates, unhygienic forms of shelter ranging from inner-city slum tenements to peripheral squatter settlements, water supply, sanitation, indoor pollution, overcrowding, dangerous building sites, garbage hazards, air pollution, and water pollution. These settlements are a serious health concern as in most cases they are overcrowded and without the proper physical infrastructure needed to support social, biological and economic human activities. For Africa and sub-Saharan Africa in particular this is a serious problem. The United Nations Settlements Programme –UN-Habitat (2003) estimates that sub-Saharan Africa hosts the largest proportion of the urban population residing in unconventional housing (71.9%); 166 million out of a total urban population of 231 million are classified as staying in unconventional housing. Pacione (2005) notes, that in 1994 300 million urban dwellers lacked access to safe drinking water and had no alternative but to obtain supplies from streams or other surface sources. The health concerns regarding unconventional housing settlements are highlighted by the United Nations Human Settlements Programme (2003) in their report „The Challenge of Slums: Global Report on Human Settlements". It is noted that dwellers in these

settlements live in some of the most unhygienic overcrowded conditions without clean drinking water and proper sanitation facilities which makes them susceptible to diseases such as cholera, bilharzia, typhoid, dysentery and Human Immune Deficiency Virus (HIV).Thus most developing countries are currently experiencing a mixed stage in transition in which average mortality and morbidity from degenerative diseases are increasing while those from infectious diseases remain high because of the HIV/AIDS epidemic (Pacione, 2005). Responses to these problems have mainly centred on bottom-up strategies to provide the poor with the minimum levels of nutrition, safe drinking water, shelter, hygiene and health literacy to enable them not only to survive but to improve their welfare (Simon, 1990).

Some of these problems are a direct result of the neo-liberal doctrine brought about by Economic Structural Adjustment Programmes (ESAPs). ESAPs pay homage to the conservative position that growth (efficiency) should take primacy over redistribution (equity) and that state intervention should be minimized in favour of the market (Simon, 1990). In this context, in most Third World countries the economic agenda of TNCs is superimposed at the expense of communities‟ social, environmental, and economic needs. A classic case in point is the Niger Delta in Nigeria. The Niger Delta is the richest part of Nigeria endowed with massive oil and gas deposits, extensive forests, high-quality land for farming activities and fisheries (Moffat and Linden, 1995). These resources are distributed among eight states in the south of Nigeria namely Delta, Edo, Bayelsa, Rivers, Cross Rivers, Abia, Ond, and Akwa-Ibom (Jike, 2004: 687). When oil was discovered in the Niger Delta in 1958 there was a lot of excitement among the local communities as the people thought that positive transformation would be brought by this discovery. However as time progressed the excitement turned into a nightmare, as the prospecting for oil by TNCs transformed their livelihoods for the worse and oil became the source of socio-economic and environmental woes.

As a result of the persistence of these problems, community-based organizations have mushroomed in the Niger Delta, fighting for the social, health and environmental concerns of communities marginalized by economic development at their doorstep. However, little has been achieved as the Nigerian state seems to be colluding with the TNCs in violating the people‟s socio-economic and environmental rights. Amnesty International (2009: 12) notes that the Constitution of the Federal Republic of Nigeria recognizes, within its fundamental objectives, that the State:

> shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria [and that] the State shall direct its policy towards ensuring … that suitable and adequate shelter, suitable and adequate food, reasonable national minimum living wage,

> old age care and pensions, and unemployment, sick benefits and welfare of the disabled are provided for all citizens.

According to Amnesty International (2009) this is in addition to the fact that Nigeria is party to the International Covenant on Economic, Social and Cultural Rights and the African Charter on Human and Peoples‟ Rights, international instruments which require the protection of economic, social and cultural rights. However, the environmental problems faced by communities in the Niger Delta demonstrate that these declarations have not been translated into reality. Jike (2004) argues one reason has been the absence of appropriate legislation to specifically regulate the operations of TNCs in the Niger Delta, regardless of the broader national constitution outlined above. There is also a general perception in the cooperate world that oil exploration in Nigeria was an all comers game; this unleashed unintended environmental consequences that are yet to be fully addressed. As such Moffat and Linden, (1995), argue that to achieve sustainable development in the Niger Delta, there is need for an appropriate policy framework, as well as specific projects and programs, to deal with the failure to encourage markets to reflect the full social and environmental costs of goods and services, and the lack of accountability and participation.

The Niger Delta case in Nigeria demonstrates that without the cooperation of all stakeholders in urban governance, especially the state and the business sector, the creation of livable city neighborhoods will remain a pipe dream in Africa. This is the case elsewhere in Africa where transnational mining companies have violated community environmental rights, with African states playing a complicit role. The mining industry in Africa is under-regulated; this resulted in massive environmental pollution as in the copper and cobalt mines in Zaire, diamonds, gold, platinum, and chromium in South Africa, uranium in Namibia, and bauxite in Guinea where environmental pollution is a serious concern for mining towns (Clay, 1994).

In the South Durban Basin (SDB), in the city of Durban, South Africa, the goal of promoting economic growth and the creation of jobs in the 1970s led to location of residential communities next to polluting chemical industries (Scott, 2003). This spatial order meant that residential areas located next to polluting petro-chemical industries face problems of environmental pollution. Petrochemical and chemical industries are concentrated in the SDB area, but at the same time the area is home to approximately 100,000 people, some of them located dangerously close to chemical industries (Groundwork, 2002). The main problem facing residential communities in the SDB is atmospheric pollution due to chemicals such as Sulphar Dioxide (SO2) emitted by the petrochemical industries. There is a high prevalence of leukemia and cancer in the area. Ever since the 1970s when the SDB

was founded, people living in the SDB have been fighting for a cleaner and healthier area. This fight gained momentum with the advent of democracy in South Africa in 1994. It should be noted that CBOs and NGOs have mushroomed in third world countries, in the absence of an effective state.

In a clear embrace of bottom-up approaches in developing countries there has been a shift from the policies of the 1980s that were based on western concepts of planning and design, which in general, made the resulting housing expensive to construct and rent. These are best described by the concepts of tokenism and misplaced philanthropist. Tokenism according to Pacione (2005) is more of a political approach to housing problems as its intention is make government‟s concern about the urban poor more visible through the provision of high-rise apartments irrespective of their fiscal or cultural sustainability. Misplaced philanthropism denotes the fact that many socially motivated housing schemes fail to assist the urban poor because of high costs, which result from inappropriate adherence to western standards. This is clearly the case of Malaysia. As noted by Pacione (2005: 550):

> In Malaysia the Rifle Range Project began in 1968 on the outskirts of George Town, employed an expensive prefabricated construction technique which meant that even with government subsidy the lowest monthly rent was beyond the reach of intended residents. By the mid-1970s the government appeared to have accepted the scheme‟s failure as a low income housing project and raised the income threshold for entry to from M$200 to M$500. This led to an influx of middle income families for whom the flats provided cheap, adequate but temporary accommodation whilst they saved enough to enter the private market. By 1980 only 25 percent of households could be considered low income.

It should be noted that most the mass housing projects that governments in Third World countries embarked on did not reach the poorest of the poor, the intended beneficiaries, as the unit costs were high, resulting in few apartments being built. Middle income groups benefited more than low income groups and housing designs and locations were ill-matched to the needs of the poor (Pacione, 2005).

This led to the realization that modern responses to squatter settlements in Third World cities through their clearance were not feasible. New approaches such as upgrading and site and service schemes were introduced. Squatter upgrading entails the provision of basic infrastructure for squatter settlements with the goal of minimizing the costs of housing improvements for the dwellers and also the disruptions caused by slum clearance. Notable examples of squatter upgrading projects are the Kampung Improvement Programme (KIP) in Jarkata and the Favela Bairro squatter settlement upgrading in Brazil.

Other bottom-up approaches that have been adopted to improve the health situation of the poor entail integrated approaches to area development. This is influenced by the United Nations Environment Programme‟s approach to promoting sustainable development globally. One of the main results of the 1992 Earth Summit was Agenda 21, a comprehensive programme of action throughout the world to achieve a more sustainable pattern of development (Phillips, 2003). This approach seeks to bring together a range of health and other initiatives to produce an outcome that is greater than the sum of its parts (Pacione, 2005: 569). In this regard, Pacione argues that health improvement is seen as only part of an integrated approach, the goal of which is the total improvement of the community. Effective introduction and implementation of integrated community development initiatives requires coordinated action at a number of levels and is dependent on the links between service providers and intended recipients. Elected local government is just one of a plurality of public-private agencies, Quasi-Autonomous Non-Governmental Organisations (QUANGOs), private sector companies and NGOs and private voluntary organisations (PVOs) involved in land use planning at the local level (Batty, 2001).

4.3 Synopsis of settlement function in the Third World

Santos (1979, cited in Pacione, 2005) notes three major modernizations and their effect on Third World economies. These are commercial modernization, industrial modernization, and technological modernization. Commercial modernization started during the mercantile period when an international division of labour strengthened metropolitan administrative structure as colonial powers appropriated the wealth of Third World colonies. During this period an impoverished countryside co-existed with urban areas characterized by a limited market for consumer goods and demand for labour proportionate with their almost exclusively commercial and administrative functions. Industrial modernization took place from the mid-twentieth century through a process in which urban areas were capitalized because of the development of modern land and maritime transport. Technological modernization began roughly around the mid 20th century, intensifying at the turn of this century. It is characterized by the activities of TNCs investing in high technology industries mostly in manufacturing and resource extraction such as mining. By its nature it is capital intensive and as a result is incapable of meeting the demand for work by the local population. As a result Third World cities are characterized by small scale, informal activities of people who cannot be absorbed by the formal sectors.

4.4 Urbanization and urban growth in the developing world

The main impact of colonialism on urban growth and urbanization is that colonial settlers introduced urban centres that were based on resource exploitation and administration so as to enhance their powers over their colonies. Since most urban centres were established as administrative centres, most studies on urban growth and urbanization are based on the administrative criterion of delimiting urban settlements. More often than not this approach has been used in unison with other criteria such as population density. As the population of the administratively designated urban areas started to spill over the official boundaries as urban areas expanded, the administrative criterion has been fused with a functionalist approach. The functionalist approach pays homage to the fact that an urban area is not necessarily one discrete entity but in some instances may be made up of number separate units that are functionally dependant on one another in terms of employment and residence, for instance.

It should also be noted that most analyses of urban growth and urbanization trends are based on the classification of settlements as either urban or rural. This makes it difficult to make cross references and comparisons of different countries as the criteria for classifying settlements along these lines vary across space and time. Furthermore, there are no hard and fast rules for classifying since settlements can be placed on sliding scale ranging from small hamlets to large agglomerations whose difference is of degree rather than clear cut.

What emerges is the fact that various criteria are used by different developing countries in distinguishing urban and rural settlements as the basis for analysing urban growth and urbanization. These include population size, the presence of particular services, the proportion of non-agricultural activities, the landscape and political status (Champion, 2004). However, it should be noted two criteria prevail in most of the developing nations globally, namely, population size and the political status of the territorial unit (*ibid*). This renders urban growth and urbanization trends relatively comparable amongst the developing countries. For example, in the case of Latin America countries Lattes *et al* (2004) note that the definition of urban and rural settlements applied in censuses since 1952 was that of the presence of particular services and political administrative status; recently, this was altered to include only population thresholds and the administrative criteria. In other countries such Ecuador, the definition of urban and rural settlements has since 1950 followed a political-administrative criterion, although its application has varied over time.

The same applies to countries in Asia where it is evident that some countries adopt a purely administrative approach to defining urban areas, whereas others use more functional criteria (Jones,

2004). In Africa the population and administrative criteria prevail although low population thresholds are used due to low levels of urbanization as in the case of Senegal where the highest threshold is 10,000 inhabitants (Senegal) with thresholds of 2,000 or 5,000 also common (Bocquier, 2004). It should be noted however, that these criteria have not remained consistent over time as a functionalist approach has seen the introduction of economic criteria in addition to the demographic and strictly administrative criteria (*ibid*).

Urban growth and urbanization in the developing countries assumed significance with the advent of independence in most developing countries which coincided with the emergence of the techno-economic paradigm in the developed countries. Before then, colonial activities largely stimulated the growth of secondary cities as the orientation of urban networks was towards the exploitation of hinterlands rather than an industry- and service-based urban economy (Knox *et al,* 2003; Lattes *et al,* 2004; Bocquier, 2004). With the dawn of the techno-economic era in the developed countries which coincided with the independence of most developing countries round about the 1960s, TNCs, mostly engaged in resource extraction and manufacturing, relocated to developing countries as the lure of cheap labour proved irresistible in the face of burgeoning workers‟ rights in the developed world. The pinnacle of urban growth during this period was urban primacy as most of the manufacturing companies that relocated to the developing countries were concentrated in few urban centres, partially because of the need for urban environments on the part of expatriates, as Rambanapasi (1987) notes.

Table 4.1 below from the United Nations in 1980, adopted from Becker and Morrison (1999), shows that urban growth and urbanization rates in the developing countries reached their zenith between 1950 and 1980, hovering between 4% and 4.7%. During this period, urban net in-migration was the main contributor to urban growth and urbanization. In the case of Latin America, Lattes *et al* (2004) show that during the 1950s the rural-urban transfer of population accounted for 46.4% of the urban growth of the region, although by the 1990s it only accounted for 38.4%. The same holds true in Africa, where Bocquier (2004: 134) notes that the urban growth rate has never been as high as in the early post-independence years of the 1960s and 1970s when some capital cities grew by more than 10% per year (as in Abidjan around 1970). In the case of Asia, this is particularly true for the 'Asian tigers' (Republic of Korea, Taiwan, Hong Kong and Singapore) and other countries (especially Thailand, Malaysia and Indonesia) which achieved spectacular economic growth during the last three decades of the twentieth century (Jones, 2004).

Table 4. 1: Patterns of urbanization, 1950-1995 (all figures in percentages)

Region	1950	1960	1970	1975	1980	1995	1995	2015	2015
Proportion of population living in urban areas									
Less developed regions	16.7	21.8	25.8	28	30.5	36.5	43.5	37.6	50.5
Latin America	41.2	49.4	57.4	61.2	64.7	70.7	75.2	74.2	82.1
East Asia excl. China and Japan	28.6	36.3	47.5	53.4	58.8	67.5	73	36.9	51.7
China	11	18.6	21.6	23.3	25.4	31.1	38.6	30.2	46.9
South Asia	15.6	17.8	20.4	22	24	29.1	36.1		
Africa	14.5	18.2	22.8	25.7	28.8	35.7	42.5	34.4	47.2
Middle Africa	14.6	18.1	25.2	29.7	34.4	43.6	51.6	33.2	46.6
East Africa	5.5	7.5	10.7	13.2	16.1	22.7	29.4	21.7	34.1
West Africa	10.2	13.5	17.3	19.6	22.3	28.6	35.9	36.6	52.3
Region	1950 - 1960	1960 - 1970	1970 – 1975	1975 – 1980	1980 - 1990	1990 - 1995	1975 - 1995	1995 - 2025	
Annual average urban population Growth rates (%)									
Less developed regions	4.68	3.94	3.95	4.06	4.02	3.76	3.7	3.1	
Latin America	4.57	4.21	4.01	3.86	3.56	3.06	3	1.9	
East Asia excl. China and Japan	4.16	5.2	4.52	4	3.33	2.36	3.2	2.5	
China	6.84	3.15	3.17	3.32	3.29	3.25	4.2	3	
South Asia	3.37	3.91	4.01	4.33	4.47	4.27			
Africa	4.42	4.85	4.97	5.1	5	4.56	4.4	4.1	
Middle Africa	4.07	5.71	5.56	5.4	5.04	4.4	4.1	4.6	
East Africa	5.37	6.06	6.95	6.87	6.39	5.59	5.8	5	
West Africa	4.97	4.87	5.1	5.34	5.43	5.21	5.3	4.5	
Source: United Nations (1980: Tables 5, 6); final two columns: United Nations (1996: Tables 1-2) *cited* in Becker and Morrison (1999: 1676)									

4.4.1 Migration in the developing world

A key driver of urban growth and urbanization in the developing countries was rural-urban migration for economic reasons, as per the migration accounts by neo-classical theorists. At the heart of these theories is the argument that migration to urban areas is driven by employment opportunities in these areas; as such it strikes a balance in the unequal distribution of labour between regions (rural and urban). Furthermore, the theories assume that human beings are free agents whose movement centres on their choice. As such there is need to understand the influences on the movement of economically active people between countries and within broad regions as there are always disparities in the distribution of employment opportunities, an indication of imperfections in labour markets (Boyle *et al*, 1998). Rural to urban migration for purposes of employment among Latin American countries, especially in the period between 1950 and 1980 is well documented (Cross, 1979; Jones, 2004; Lattes *et al,* 2004). Scholars point to the fact that rural-urban migration for employment reasons has

been the major source of urbanization. In the case of Africa, Boyle *et al* (1998); Gugler and Gugler (1996) and Bocquier (2004: 134) point to wage employment in cities as fuelling rural to urban migration.

International migration

It should also be noted that international migration for economic reasons, as the neo-classical school of thought suggests, played a significant role in urban growth and urbanization in the developing world. A turning point for international migration in the developing world came in the 1970s when the oil price increased, negatively impacting the manufacturing sector and sharply reducing the demand for labour. For instance, in Germany there was a complete halt on further guest worker recruitment (Castles, Booth and Wallace, 1984, cited in Boyle *et al* (*ibid*); nonetheless, in most European countries, the size of 'foreigner populations' continued to expand, as successful labour migrants were joined by their families – the process of family reunion (*ibid*).

Whilst Europe‟s economic fortunes tumbled due to oil price increases, the opposite was true for the oil exporting countries, especially those in the Persian Gulf which experienced an economic boom. As such they became the new destination for international labour. For instance, Venezuela began to recruit labour from Spain, Portugal and the neighbouring countries of the Andean Pact; the Persian Gulf became a major destination for workers from other Arab countries and also later from India, Pakistan and Bangladesh; capital-rich but labour-poor countries, such as Saudi Arabia, Kuwait and the United Arab Emirates, had by 1980 attracted so many immigrants that half their active labour forces were foreigners (Birks, Seccombe and Sinclair, 1986), with 2.8 million foreign workers in the ten leading Arabian oil-producing countries (Boyle *et al*, 1998).

In the Caribbean countries the history of international migration is embedded in movement for employment purposes. For instance Cuba is said to have imported 230,000 contract labourers from Haiti and Jamaica between 1912 and 1924 to harvest sugar cane in Oriente Province (Segal, 1975: 9 cited in Cross, 1979). Cross (1979) also notes that Trinidad has been a net importer of labour from Grenada or other Windward Islands because of the viability of its oil industry. Another significant milestone in international migration in the Caribbean resulted from the British Commonwealth Immigration Act of 1962 which promoted relatively unrestricted emigration to the United Kingdom by Commonwealth member states‟ citizens. The effect of this Act in the Caribbean was that from 1950 close to 3 million people migrated overseas and that in no society was net immigration less than 5% of the total population (Segal, 1975: 17; cf. Segal and Earnhardt, 1969, cited in Cross, 1979).

These movements included Barbadians and Jamaicans to England, and Puerto Ricans to the United States, although there were substantial movements of Cubans, Dominicans and Haitians to the United States (Segal, 1975: 10, cited in Cross, 1979).

It should be noted however, that these figures do not take illegal migration into account. The history of international migration in the Caribbean, as in the rest of the world, is pregnant with movement of undocumented people across national borders. For instance, the Trinidad Government puts its own loss through net emigration over the period 1947 to 1962 at 62,107 which is well below Segal's estimates cited above which include an element of illegal immigration (Cross, 1979).

The pattern of international migration has also been linked to urbanization in the Caribbean countries. International movements often started with rural to urban migration of the youth, generally in the 25-35 age groups with the intention of permanent settlement. However after experiencing intense problems they then pushed on further overseas in the hope of finding better employment opportunities and a steady income (Cross, 1979). As such it can be discerned that there is a two-stage process at work. The first is rural to urban migration and subsequently emigration to an overseas country especially Britain. It is also worth noting that those who were often in the direst economic circumstances sometimes lacked the money and morale to migrate to the city and as such there is no clear cut relationship between unemployment and external migration (Peach, 1968, cited in Cross 1979). Furthermore, those who emigrated often came from urban areas, and were relatively better resourced and more well-informed than their rural and urban counterparts. For instance, a sample survey of passport applicants in Jamaica during 1962, found that rates of external migration from more isolated rural parishes were considerably lower than those nearer to the urban areas, while the urban areas themselves had still higher rates (Francis, 1965: 94, cited in Cross, 1979).

In Africa international migration patterns and trends are still being shaped by the continent's history of colonization and by the arbitrary borders imposed by the colonial powers, borders that often divide people belonging to the same tribal or ethnic group between two or more independent countries (Adepoju 1988; Makinwa-Adebusoye, 1992 cited in Zlotnik, 2006). Thus in some instances migration that would otherwise have been internal is considered international. In Southern Africa and South Africa in particular, the colonial government relied on migrant male labour for its mines. Over the years however, females have steadily participated in international migration; in 2000, about 47% of the 16 million international migrants living in Africa were female, up from 43% in 1970, when the number of international migrants on the continent stood at about ten million (Zlotnik, 2006).

Rural-urban migration in developing countries

It should be noted however, that in as much as most accounts of urban growth and urbanization during the period between 1950 and 1980 in the developing world point to rural-urban migration for employment purposes, there has been significant rural-urban migration driven by quality of life considerations. Boyle *et al* (1997) argue that the city acts more than just as a potential source of livelihood; overall, it provides better prospects than the countryside in terms of health care and housing provision, educational facilities, training opportunities and other public facilities such as clean water and electricity. Boyle *et al* quote Gilbert (1994: 44-5), who notes that:

> If lack of land, starvation, or poverty were the principal factors behind outmigration, then figures should show relatively higher proportion of poor migrants in the total flow. The fact that they do not suggests that, however difficult rural conditions, there is an important component of migration flows that can only be explained in terms of choice. The people who move are those who under current conditions are best able to adapt.

Examples noted by Boyle *et al* (1997) in this regard include that of Altsimadja (1992) who argues that in Central Africa the colonial authorities were partly responsible for making the cities attractive to migrants by developing health and education infrastructure within them rather than in countries as a whole. Living in the city leads to improved levels of personal security because of proximity to services such as hospitals. Another example noted by Boyle *et al* (1997) is that of India and Thailand where thousands of migrants migrate from rural areas to urban areas in search of employment and a better quality of life. In the case of Thailand Boyle *et al* observe that public facilities and services are concentrated in the city of Bangkok; hence its attraction to migrants from rural areas.

It is significant to note that urban growth and urbanization resulting from the movement of people from rural to urban areas due to employment and quality of life considerations did not occur in the abstract in the developing countries. Throughout history states in Third World countries are on record as engineering the movement of people for social, political and economic reasons. As such rates of urban growth and urbanization have been significantly affected by states‟ human settlement policies. A notable example is that of South Africa during the colonial era when the colonial government implemented the policy of apartheid. The aim of apartheid policies was to promote „a legally enforced policy to promote the political, social and cultural separation of racially defined communities for the exclusive benefit of one of those communities‟ (Christopher, 1994: 1 cited in Boyle *et al,* 1997). The outcome according to Boyle *et al* (1997), was that between 1960 and 1983 about 1.7 million black people were relocated as the apartheid regime sought to:

> ..allow white minority population to retain their position of priviledge at the pinnacle of the political and economic systems by fragmenting the black population into incipient nations, none of which had the numerical and economic power to prevail over the whites (Boyle *et al*, 1997: 169).

Cases where states have sought to engineer internal migration for economic reasons include Indonesia‟s transmigration programme and the villagization programme in Ethiopia in the late 1980s instituted by President Mengistu. The aim of Indonesia‟s transmigration programme was spatial equilibrium as 65% percent of Indonesia‟s 168 million people live on the island of Java at densities of up to 2,000 persons per square kilometre, while the outer Islands of Sumatra, Kalimantan and Sulawesi have vast tracts of land with very low population densities (Boyle *et al,* 1997). On the other hand, Ethiopia focused on the relocation of farmers into designated settlements so as to enhance government control over their productivity. However this did not achieve the intended results as it located farmers further away from their farming lots and they ended up spending more time travelling to their fields than working in the fields. Another case in point is that of China where under Mao Tse Tung the state introduced socialist policies aimed at eradicating disparities between urban and rural areas by restricting rural-urban migration. People had to register their movement to urban areas from rural areas to be eligible for social and economic benefits in urban areas.

Sub-urbanization

As a consequence of rapid urbanization since the 1960s Third World countries have also witnessed significant migration within the urban environment manifested in suburbanization or metropolitanization. This phenomenon entails a process where the built up areas of cities have spread beyond their administrative boundaries and physically separate localities nearby have fallen under their influence, as illustrated by commuter flows (Garza, 2004: 161). This new configuration of 'extended metropolitan areas' is neither limited to the incorporation of new territories nor to the enlargement of the road network; it also implies that industry and other activities will move to the periphery (Lattes *et al,* 2004: 101). For Latin America this is demonstrated in Table 4.2, adapted from Lattes *et al* (2004) on the following page that shows the increase in the population of people living in peripheral locations in the cities of Mexico City, Sao Paulo and Buenos Aires between 1950 and 1990.

Another case that clearly demonstrates suburbanization in the Caribbean is that of Jamaica, cited by Cross (1979). Cross points out that between 1960 and 1970 the population of Jamaica rose by 238,700 and the city of Kingston and the surrounding suburban parish of St Andrew received 47% of

this total. He notes that that St Andrew itself received 53% of the increase; the reason is simply that for the first time, the population of Kingston fell in absolute terms - although declines in growth had been evident from 1921-43. This has also been the case in the other major cities in the Caribbean.

Table 4. 2: Population of the extended metropolitan areas of Mexico City, Sao Paulo and Buenos Aires, by Area components, 1950 – 1990

Area components	Millions			Percentage		
	1950	1970	1990	1950	1970	1990
Mexico City						
Metropolitan area	3.4	9	15	83.8	86.6	80.7
Federal district	3.1	6.9	8.2	76	66	44.2
Agglomerated municipalities	0.3	2.1	6.8	7.8	20.6	36.5
Peripheral areas	0.6	1.4	3.6	16.2	13.4	19.3
Adjacent to metro area	0.2	0.5	1.5	5.6	4.8	7.9
Non-adjacent	0.4	0.9	2.1	10.6	8.6	11.4
Extended metropolitan area	4	10.4	18.7	100	100	100
Sao Paulo						
Greater Sao Paulo	2.6	8.1	15.2	70.5	76.2	72.4
Sao Paulo municipality	2.1	5.9	9.5	58.3	55.6	45.1
Agglomerated municipalities	0.4	2.2	5.7	12.2	20.6	27.2
Peripheral areas	1	2.5	5.8	29.5	23.8	27.6
Adjacent to metro area	0.4	1	2	12.2	9.7	9.6
Non-adjacent	0.6	1.5	3.8	17.3	14	18
Extended metropolitan area	3.6	10.6	21	100	100	100
Buenos Aires						
Greater Buenos Aires	4.7	8.4	11	88.3	87.1	85.2
Buenos Aires autonomous city	3	3	3	55.8	31	23.1
Agglomerated municipalities	1.7	5.4	8	32.6	56.1	62.1
Peripheral areas	0.6	1.3	1.9	11.7	12.9	14.8
Adjacent to metro area	0.4	0.9	1.4	7.8	9.1	10.8
Non-adjacent	0.2	0.4	0.5	3.9	3.8	4
Extended metropolitan area	5.3	9.6	12.9	100	100	100

Source: Rodriguez and Villa (1997, cited in Lattes *et al,* 2004: 2004: 102).

In Trinidad and Tobago, Cross (1979) also notes that between 1946 and 1960 there is evidence of two strong movements; urbanization, as the major part of inward movement consists of people from rural areas, and suburbanization as the city centre loses population to the wards of Diego Martin, St Ann's and Tacarigua. For example 'between 1946 and 1960, a great exodus began. Cross also notes that the population of San Juan and its companion town of Rio Piedras, comprised only 4% of the total population in 1960. By 1970, Cross reveals that the Metropolitan Area had grown to more than 30% of the population of 2.7m. In the previous decade overall growth was 15.4%, with the rural

population falling by 13.3% and the urban population rising by 51.6%. However, within the Metropolitan Area, suburbanization was the dominant theme; the city centre‟s population increased by 19.5%, while the urban fringe‟s population exploded by 213% in one decade (Puerto Rico, 1970, cited in Cross, 1979).

In the case of Asia Jones (2004: 125) notes that densely settled agricultural areas surround the major Southeast Asian cities including Jakarta, Bangkok and Manila, where complex physical and employment patterns have emerged as a result of migration both from far away and from the city proper. Jones points to the case of Bangkok where;

> The bulk of the decentralization has been occurring in the form of 'ribbon development' along the three major transport corridors leading out of the urban core to the southwest, southeast, and north ... It has involved conversion of paddy lands; encroachment on agricultural land; and leapfrogging types of development in the fringe areas, leaving large tracts of unused land in between ... Access to individual lots is typically provided by long and disjointed dirt roads built by the private developers along the boundaries of elongated agricultural lots. Subsequently, individual houses and all types of smaller and larger private housing estates emerge, mixed with commercial and industrial land uses ... Private developers have largely failed to provide an adequate secondary road system. The result is a series of 'superblocks', which in large areas are bounded by main roads and arterials with little or no internal road network to distribute traffic efficiently or provide access within the blocks. This leaves much of the land within the superblock unusable and tends to concentrate the traffic on the relatively few, already overcrowded main thoroughfares (Robinson, 1995, pp.97-8, cited in Jones, 2004: 126).

This phenomenon is not limited to Asia and Latin America; suburbanization is also prevalent in African cities in countries such as South Africa and Zimbabwe. Several scholars such as Mabin (2005); Dewar (2000); and Adebayo (2010) have documented that South African cities are characterized by the peripheral location of mono-functional, single residential development with limited access to social and economic facilities for the poor. Furthermore they point to residential areas for the middle and upper class, which are characterized by gated, isolated communities in peripheral locations in cities such as Durban, Cape Town and Pretoria with a high environmental quality and maximum security. The same applies to cities such as Harare where low and middle income residential locations have been peripherally located in areas such as Hatcliffe and Dzivaresekwa respectively.

There are several social, economic, political and environmental explanations for this phenomenon. The main reasons identified in the literature are a shortage of land for low income housing in the

inner city areas, the life style preferences of high income groups, and the relocation of industries and activities from the inner city areas to the periphery.

Cross (1979) notes that the process of suburbanization has been a selective one, which tends to institutionalize urban inequalities as the middle class and more affluent groups retreat from the squalor of the city itself to the comparative prosperity of the suburbs. Hence Cross points out that it often 'leapfrogs' the rural migrants in the slums on the rim of the commercial core or by-passes them as they are forced into clearly demarcated areas of the suburbs. The globalization of developed country-urban lifestyles based on individualism and privacy, conspicuous consumption and a low-density housing ideology is proceeding rapidly and has had a marked impact on middle-class aspirations in developing countries (Burgess, 2000). This has been augmented by burgeoning private a car ownership in the developing countries.

Lattes *et al* (2004) note that in Buenos Aires, a type of population mobility that has gained great importance in recent decades within the metro areas is that generated by the expulsion of poor people from 'exclusive' residential zones or by public action that builds social housing on the least expensive land on the urban periphery. According to Tolley and Crihfield (1987: 1300), in many developing countries, especially those in Latin America, the urban poor are found living at the edges of large cities largely due to land use supply, over and above fiscal considerations. Another example is the city of La Paz in Bolivia. The UN Habitat State of the World‟s Cities Report (2008/2009) notes that the city lost an average of 10, 000 people every year from 1989 to 2003 to the nearby El Alto settlement, owing to the lack of affordable housing in the capital city and the difficulties of expanding a city that is located on a small, steep basin.

UNDP (1992) and Satterthwaite (1999, cited in Burgess, 2000) note that high demographic growth; low levels of economic development, high income inequalities, small urban budgets and shortages of environmental infrastructure, shelter and basic services have a critical effect on densification policies and the effectiveness of policy instruments. In this regard, Burgess (2000) argues that under neo-liberal strategies in developing countries a major obstacle to densification is the rapid increase in land values in many cities as the demand for urban space has soared and as large surpluses from the deregulated finance sector and the drugs trade have been ploughed into the urban land market. An example is that of Mumbai which had the highest commercial office rents in the world in 1999.

Another factor contributing to suburbanization is socio-cultural constructs of acceptable housing densities. In general, urban densities are highest in Asia; high in Europe, North Africa and the

Middle East; low in Latin America and sub-Saharan Africa and lowest in North America and Australia (Acioly and Davidson, 1996; cited in Burgess, 2000). In South Africa for instance the cultural preference for free standing housing units rather than high rise housing developments has been noted by Dewar (2000).

Counterurbanization in the developing world

The advent of neo-liberalism in developing countries heralded by the introduction of structural adjustment programmes had significant impact on urban growth and urbanization trends. This brought about, deindustrialization, the growth of informal sectors, increasing urban poverty and a decline in the attraction of people to large metropolitan areas (Lattes *et al*, 2004). In Latin America for instance, Lates *et al* (2004) note that the concentration of the region‟s population in the largest cities was at its peak during the 1960s as two out of five urban people (38.7%) were living in the 25 largest cities and only five cities accounted for half of this population. By 2000 it is noted that the share of the largest 25 cities dropped only slightly to more than one in three (34.1%), with that of the top city falling more steeply, down by almost a quarter. The same applies to Africa where Bouquier (2004) observes that the UN (2003) has suggested that, at the turn of the century, the pace of urban growth appears to have decreased considerably in sub-Saharan Africa (SSA) as its level of urbanization remains the lowest in the world, estimated at 37.2% in 2000. In Asia there is also evidence of the deceleration of the growth of the largest cities; Jones points to the slowing growth rates of cities such as Bangkok, Manila, Taipei, Jakarta, Surabaya, Bandung and Medan between 1995 and 2000.

The UN UN-HABITAT State of the World‟s Cities Report (2008/2009) also points to an analysis of 1,408 cities in the developing world which revealed that 143 cities, or 10.2% of the sample, experienced a decline in population growth rates. However, the report cautions that rapid or accelerated urban growth is still the norm in most regions of the developing world; more than half (53%) of the cities in the sample have been growing at a rate of more than 4% a year while more than 36% experienced rapid annual growth rates of between 2 and 4%. Furthermore the report notes that the phenomenon of declining cities in developing countries is largely prevalent in Asia and Latin America, but less significant in Africa as revealed by Table 4.3 below.

Table 4. 3: Declining Cities in the Developing World		
Region	**Number of cities experiencing declining populations (from 1990-2000)**	**Population loss (millions) (1990-2000)**
Africa	11	0.37
Latin America and the Caribbean	46	2.8
Asia	86	9.7
China	50	6.8
India	16	0.7
Total	143	13

Source: UN HABITAT GLOBAL OBSERVATORY, 2008

There are several explanations for the deceleration of urbanization in developing countries and the slowing down of the growth of major cities in the developing world. The main reason is the economic decline in cities which prompted new migration patterns in the form of urban-urban migration and urban to rural migration as poverty and inequality in the cities increased. Furthermore, there have been significant demographic transformations in Third World cities.

Lattes *et al* (2004) citing ECLAC, (2001a); Chant, (1999); and Rodrfguez and Villa, (1997) argue that some of the main factors that led to the deceleration of growth of large cities in the developing countries are a development pattern (opening up to global economic and sociocultural exchange, reduction in state spending, etc.), that strongly values primary activities at the expense of those prevailing in cities; and the economic crisis of the 1980s which affected large cities drastically due to fiscal austerity that limited state spending previously concentrated on them. Lattes *et al* (2004) and Carmona (2000) point to the construction of large highways, linking big metropolitan areas and the rest of the urban system as having facilitated the transfer of people and activities along the nodes within urban systems. Examples cited include the corridors that bind Mexico City with Toluca-Lerma, Puebla-Tlaxcala, Cuernavaca, Pachuca-Tizayuca and Queretaro-San Juan in both productive and demographic terms and Santiago (Chile) where the construction of new roads opened traditionally agricultural valleys to residential occupation by wealthy population groups, sometimes as weekend houses but also as permanent homes for people working in Santiago. This has consequently been associated with the consolidation of intermediate cities (CELADE, 2001; ECLAC/ HABITAT, 2001; Chant, 1999; Jordan and Simioni, 1998 cited in Lattes *et al*, 2004).

Another cause of the decline cities in the developing world, especially the smaller ones, has been industry becoming obsolete and an incremental decline in single, factory-based industries, as evident in the small cities of Linhares, Brazil and Valera, Venezuela, where the number of residents declined

by 2% in the 1990s as a result of the decline of the main agricultural industry (UN HABITAT State of the World‟s Cities Report 2008/2009: 45). This also applies to copper mining towns in Zambia that experienced decline due the decrease in the demand for copper on world markets.

Another factor that led to the deceleration of urban growth and urbanization linked to neo-liberal policies is the decrease in the quality of life in urban areas manifested by increasing levels of poverty and the massive shortage of basic services, especially housing, water, sanitation, waste collection, and electricity, relatively high unemployment rates, increasing informal services and increasing levels of inequality. Kaplan (2004) points out that neither the commercial private sector nor the already cash-strapped public sector can build enough housing for the new arrivals, or provide basic services. Kaplan points to the example of Bangkok, where human waste is thrown into storm drains, cesspools and septic tanks and Khartoum, Sudan where only 3% of the population was connected to central sewer systems. Another example is the Indian cities of Mumbai (Bombay), Delhi, and Madras, where only one-third of households have access to sanitation. Most of the households without proper services and housing infrastructure are slum dwellers. For Africa and sub-Saharan Africa in particular this is a serious problem as the United Nations Settlements Programme – UN-Habitat (2003) estimates that sub-Saharan Africa hosts the largest proportion of the urban population residing in unconventional housing (71.9%); 166 million out of a total urban population of 231 million are classified as staying in unconventional housing. Kaplan (2004: 403) notes that in Madras, India, while about 6,000 legal housing units are built each year, but at least 30,000 new units are needed.

The problem of unemployment in Third World cities is caused by the fact that most of these cities have not generated the necessary agglomeration economies to absorb anywhere near all newcomers (Kaplan, 2004.) Another issue is that most rural-urban migrants do not have sufficient skills to fit the few technical jobs that are created by multinational companies which end up hiring expatriates from the west to fill the vacancies. For instance Latin American cities suffer from unemployment rates of 25 to 30% and from underemployment rates of 40 to 50%. As a consequence, most of the developing countries are writ large with unemployment and underemployment which at the end of the day sees those affected eking out a living in the informal sector (Kaplan, 2004). The same applies in Africa where unemployment rates hover around 30% (Nagle, 2000).

As a consequence of this the UN HABITAT State of the World‟s Cities Report (2008/2009) notes that sub-Saharan African countries have the highest levels of urban poverty in the world; more than

50% of the urban population in the poorest countries live below the poverty line. The UN HABITAT State of the World"s Cities Report (2008/2009) also notes that sub-Saharan Africa is the most unequal in terms of educational attainment. The Gino coefficient for the region is 0.59 compared to Latin America and the Caribbean (0.34) and Europe (0.19). Together with cities in Latin America such as Sao Paulo, sub-Saharan African cities have the highest level of income and social inequalities in the world as a consequence of the very small middle class as Kaplan (2004) notes. Thus urban areas became synonymous with both abject poverty and affluence as the gap between the few very wealthy and the many hungry and dejected becomes more apparent.

Due to the introduction of neo-liberalism in the developing world and the worsening socio-economic problems in Third World countries the deceleration of urban growth and urbanization has been the product of pattern of migration different from the rural-urban migration that triggered urban primacy in the 1960s. Some of the new patterns of migration that emerged include new forms of rural-urban migration (not only for economic reasons, as neo-classical economist postulate), urban to urban migration and urban to rural migration.

Rural-urban migration took new forms as those who participated in it were solely motivated by their economic circumstances. The economic situation in African cities is not rosy for the rank and file, especially new rural immigrants without sufficient skills. Kaplan (2004) notes that those who migrated to the city from rural areas at the turn of the 20th century tended to be from the wealthier parts of the country, better educated and with some form of experience in the non-agricultural occupations. This is echoed by Boyle *et al* (1997); Gilbert and Gugler (1992); and UN HABITAT (2008/2009), who note that currently in the developing world, those who move to the city find refuge in the informal sector as opportunities in the formal sphere are constrained. Boyle *et al* (1997) point to the case of the Philippines where a national survey whose results are depicted in Table 4.4 below revealed that recent migrants to cities were likely to be absorbed into the informal sector.

Table 4. 4: Formal/Informal sector distribution by migrant category and gender in Philippines cities, 1968			
Migrant Category	Sectors (percent)		
	Formal	Informal	Agriculture
Manila			
Natives			
Male	68	25.9	6.1
Female	53.7	44.5	1.8
All	62.7	32.7	4.5
Long-term migrants			
Male	74.3	22.7	3
Female	45.2	54.1	0.7
All	62.9	35	2.1
Recent migrants			
Male	71	27.7	1.3
Female	23.1	76.5	0.4
All	48	51.1	0.9
Secondary cities			
Natives			
Male	39	29.5	31.4
Female	32.9	54	13
All	36.7	38.8	24.5
Long-term migrants			
Male	51.9	32.3	15.9
Female	27.3	71.9	0.8
All	42	48.3	9.8
Recent migrants			
Male	72.4	13.8	13.8
Female	4.2	93.8	2.1
All	29.9	63.6	6.5
Source: Koo and Smith (1983) cited in Boyle *et al* (1997: 101)			

Furthermore, rural-urban migration took on a new dimension as women are increasingly participating in this movement; this is a departure from the past, especially during the colonial period where men dominated rural-urban migration. Some of the reasons for urban bound migration from rural areas are that women saw an opportunity to escape from the shackles of the patriarchal system; the „benevolent" rule of fathers, where women and boys serve the interests of older men. A classic example is that of India where women prefer slum life in the urban areas rather than submitting to the cultural constraints of rural life (Boyle *et al*, 1997). Knox *et al* (2004) cite the example of a Zulu King who laments the death of Zulu traditions brought about by rural-urban migration as young male subjects of patriarchy extricate themselves by moving to the city.

Urban to rural migration also became a significant factor that contributed to the deceleration of urban growth and urbanization in that neo-liberalism triggered a decline in the quality of life in urban areas relative to rural areas. The neo-liberal imperative of discouraging states from spending on social services meant that basic services for the majority of the urban poor who rely on public sector delivery became a pipe dream. Bouquier (2004) notes that in the once booming Third World economies such as Ivory Coast, Cameroon and Zimbabwe urban to rural movement was motivated

by the high cost of living and unemployment in urban areas and the low cost of living (food, school and housing) in rural areas.

Urban to urban migration also became dominant as those previously employed in once booming cities, especially the large cities, moved to vibrant intermediate cities that became centres of investment for multinational companies in the face of industrial decentralization policies that commenced from the 1970s to counter problems of urban primacy. This process was also fuelled by improvements in transportation networks as has been highlighted earlier in the case of Brazil, Argentina and Asian countries such as India. The above-mentioned patterns of migration in the developing world at the turn of the 20th century therefore suggest that urban growth and urbanization can best be conceptualized by synthetic theories of migration.

4.4.2 Demographic characteristics of Third World countries

Another major influence on urban growth and urbanization in developing countries is natural population increase and decline. Kaplan (2004) points to the fact that although in-migration and outmigration affect urban growth and urbanization they are not as important a factor as natural increase, as since the 20th century infant mortality rates and death rates decreased significantly due to improvements in health brought about by western civilisation during colonialism. Bouquier (2004) notes that in Africa from the 1950s to the 1970s urban growth and urbanization were due to reclassification and migration, but at the turn of the century two-thirds was due to natural increase as the share of young women in rural to urban migration increased. This in turn increased fertility rates in urban areas.

In the late 20th century it can be argued that most developing countries were still in the early or middle stages of their demographic transitions, with low levels of urbanization and rapid rates of urban growth derived from high rates of natural increase and rural-urban migration (Burgess, 2000). As migration is age selective, urban populations are generally younger than their rural counterparts; hence rates of natural increase are raised (Nagle, 2000: 289). Nagle (*ibid*) points out that in developing countries birth rates remain high, but death rates decline rapidly (birth rates are typically 30-40%; while death rates are 20%), leading to rapid urban growth as evidenced in countries such as Afghanistan, Sudan and Libya.

It should be nevertheless be noted, that there is evidence that some countries in the developing world have entered the third stage of the demographic transition model where death rates remain low and

birth rates fall (Becker and Morrison, 1999; Nagle, 2000). As such the contribution of natural increase to urban growth is low in the middle of the second half of the 20th century.

The HIV/AIDS pandemic, especially in sub-Saharan Africa contributed to the deceleration of urbanization due to its negative impact on natural increase and life expectancy. At the outset the disease strikes the urban population more than the rural population due to moral and socio-cultural factors manifested by the multiple sexual partners of urban dwellers (Boucquier, 2004). This argument should however be treated with caution as Bouquier argues, based on Tables 4.5, 4.6 and 4.7 on the following page, that the percentage of young males and females having multiple partners or females having commercial sex is only slightly higher in urban than in rural areas; the median HIV prevalence rate of women attending antenatal clinics is lower in major urban areas for countries with the lowest prevalence.

Table 4. 5: Percentage of young males and females having multiple partners in the past year in urban and rural sub-Saharan Africa

	Urban		Rural		Total	
	Males	Females	Males	Females	Males	Females
Minimum	11	2	5	1	6	1
Median	44	9	38	6	39	7
Maximum	64	21	57	12	60	15

Source: Computed from DHS data of 12 countries: Burkina Faso, Cameroon, Cote d'Ivoire, Ethiopia, Kenya, Malawi, Rwanda, Tanzania, Togo, Uganda, Zambia, Zimbabwe. 1998-2000, except 1996. www.measuredhs.com/hivdata (Cited in Bocquier, 2004: 134)

Table 4. 6: Percentage of females having commercial sex in past year in urban and rural sub-Saharan Africa

	Urban	Rural	Total
Minimum	2	0	1
Median	8	6	6
Maximum	19	22	21

Source: as for Table 4.5

Table 4. 7: HIV/AIDS prevalence rates in women in antenatal care clinics in major urban areas and other areas in sub-Saharan Africa

Indicator	All countries		Countries with lower prevalence (<10%)		Countries with higher prevalence (>=10%)	
	Major urban areas	Other areas	Major urban areas	Other areas	Major urban areas	Other urban areas
Minimum	5.2	4.4	2.7	2	14.4	8.2
Median	6.2	8.1	3.1	4	19	18.2
Maximum	7.3	12.6	3.4	6.6	28	27.1
No. Of countries	39	38	22	23	17	15

Source: Computed from Epidemiological Fact Sheets by Country (UNAIDS) database. 1993-1999, centred on 1998. www.unaids.org/epidemic_update/report (Cited in Bocquier, 2004: 139)

The negative impact of the HIV/AIDS pandemic on urban growth and urbanization is widely recognized (Bocquier, 2004; Pacione, 2005; Nagle, 2000; UN, 2010). The debate centres around the extent to which it negatively affects or impacts on urbanization and urban growth. However, the UN (2009) noted in 2009 that new HIV infections in the developing countries have been significantly reduced by 17% over the past eight years. The UN noted that in sub-Saharan Africa new infections were approximately 15%, 25% in East Asia and 10% in South East Asia.

The deceleration of urban growth and urbanization in the developing world in general can be attributed to out-migration (urban-rural) and lower fertility rates. In summary one notes that the developing countries, overall, have moved into a relatively mature stage of demographic transition characterized by declining population growth rates, giving migration an upper hand over natural population increase in determining urban growth and urbanization patterns (Kaplan, 2004; Nagle, 2000; Pacione, 2005; Becker and Morrison, 1999).

4.5 Morphology of Third World cities

Developing world cities have a diverse history which has been influenced by different stages of development from colonial rule through to their current position in the post-colonial global economy (Porter and Lloyd-Evans, 1998). Although one must acknowledge the tremendous variation among cities, it remains useful to point to some general economic, social, and spatial characteristics at least for cities within larger regions (Kaplan *et al*, 2004). As diverse as cities in developing countries are, their morphology is a reflection of the various social, economic and political forces that historically influenced them. The main forces that spatially manifest themselves in Third World cities are colonialism; ethnicity and a dual economy (Pacione, 2005; Kaplan *et al*, 2004; Nagle, 2000; Porter-Lloyd-Evans, 1998).

Most of the cities in the developing world, especially those in Latin America and Africa were established with the advent of colonialism. They were meant for the exclusive use of Europeans and made no provision for the native inhabitants save as servants. Thus one impact of colonialism on the morphology of cities is spatial fragmentation of socio-economic opportunities along racial lines. Although attempts are being made to dismantle this racial structuring of the post-colonial city in the democratic era, as in South Africa, little has been achieved as race has also solidified along class lines. Another significant effect of colonialism on the morphology of developing world cities which was also amplified with the intensification of global linkages is the homogenisation of lifestyles and ideas between western and Third World cities. Colonialism supported the dominance of western

lifestyles in Third World cities as manifested in CBDs, suburbanization, the introduction of the internal combustion engine (motor vehicles), high rise apartment blocks and impressive multinational headquarters (Porter and Lloyd-Evans, 1998). Thus, colonialism influenced the morphology of Third World cities as modernist planning principles such as the garden city movement, the city in the park principle and the radburn layout, to mention but a few, were used in the planning of Third World cities.

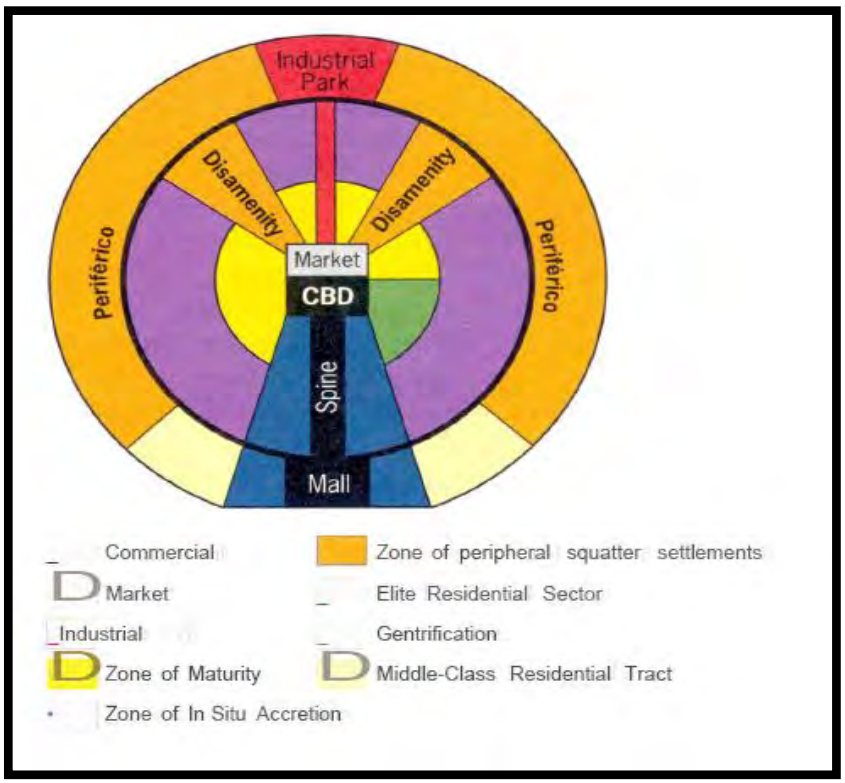
Ethnicity is also a key structuring element of Third World cities. Like their counterparts in Europe and North America; Asian, African and Latin American cities are kaleidoscopes of diverse religions, languages, races, nationalities, and castes that vie with one another for salience and space (Kaplan *et al,* 2004: 428). This is the result of a convergence of different tribes and races in cities through internal rural-urban migration and international migration. In the case of Latin America, slavery played a distinctive role in the ethnic composition of cities. Spatially, the ethnic component manifests itself through ethnic neighbourhoods.

Another spatially manifested component of Third World cities is the dual nature of the economy. With the advent of independence in most Third World countries rural-urban migration increased tremendously as in some instances restrictions on movement were eased. However, as noted earlier, the formal economy could not absorb all the immigrants, leading to the burgeoning of the informal sector. Thus developing world cities are made up of dual economies with a formal sector composed of high rise MNC headquarters; heavy and light manufacturing industry and government administrative offices alongside an informal sector with a bazaar economy, street vendors and the manufacture of handcrafts. This dual nature of the economy means that the income gap between the few who are formally employed and the many who are informally employed is very high. This is spatially manifested in the differentiation of residences between the rich and poor. Most of those employed in the informal sector find shelter in squatter settlements or low income housing settlements mostly on the periphery whilst most of those formally employed in government or corporate jobs find shelter in residences of their choice.

The influence of colonialism, globalization, ethnicity, and dual economies on the morphology of most Third World cities is mainly structured around the following key elements: the CBD, the bazaar (informal) economy; modern industry; ethnic neighbourhoods; elite neighbourhoods and squatter settlements. For instance, the model of Latin American cities was put forward by Earnst Graffin and Larry Ford in the 1980s. The main urban zones were mainly made of CBDs, the spine, an industrial

zone, a zone of disamenity, and a perifico zone. The model is shown in Figure 4.1 on the following page. Geographers such as De Bliji (2000); Knox *et al* (2004); Nagle (2000); and Porter and Lloyd-Evans (1998) explain this model at length. The explanation of this model which follows is based on their accounts.

Figure 4. 1: Model of Latin American cities put forward by Graffin and Lary



Source: De Bliji (2007: 279)

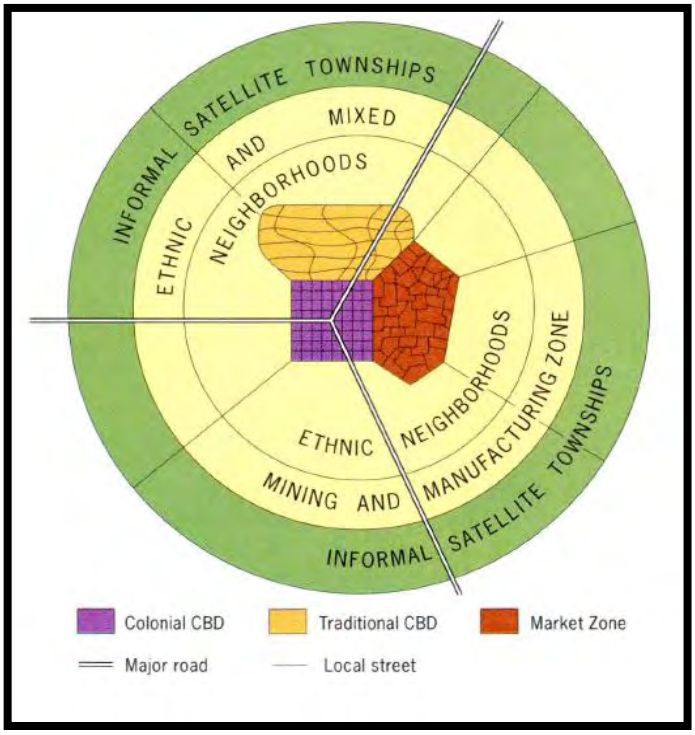
From the model one notes that the CBD is located at the centre of the city and is the main focus in terms of business, employment and entertainment. It can also be divided into a modern sector which is made up of high rise buildings for administrative and corporate purposes and a traditional market sector which can be referred to as a bazaar or informal sector. Sprouting from the CBD outwards to the periphery is a commercial spine made up shopping facilities, high quality housing for the upper and upper middle classes, theatres, and amenities such as parks, a zoo and golf courses. At the end of the spine is a suburban shopping mall. The rest of the city is made up of concentric zones of decreasing residential quality from the CBD outwards. The outermost ring comprises of squatter settlements housing mostly recent migrants to the city and is also made up of pockets of ethnic minorities.

This model of Latin American cities put forward by Graffin and Lary is clearly applicable in the case of Mexico City, Buenos Aires and Lima. Kaplan *et al* (2004) note that in the case of Mexico City most people (3 million) lack basic services and are peripherally located (in the perifico zone) in squatter settlements. In the city of Lima ethnic neighbourhoods of Andean Indians are also located on the fringes of the city.

The themes that spatially manifest themselves in the morphology of Latin American cities are also highly evident in the morphology of African cities. The morphology of African cities is centred on a CBD made up of the formal sector (government administrative offices and corporate offices) and the bazaar sector (mostly street vendors). The African city is also made up concentric zones of residences of decreasing quality from the CBD outwards, housing the middle class. On the outskirts of the city there are also informal settlements housing new migrants to the city. There are also suburban nodes of mixed use comprising of gated communities for the high income group and shopping complexes. However it should be noted that the footprint of spatial segregation by race left by colonisation is also evident in African cities as exemplified in cities such as Nairobi in Kenya and Cape Town in South Africa. Kaplan *et al* (2004) note that these cities were principally administrative capitals whose purpose was to serve European colonists. They were clearly marked by racial and occupational divisions, with the Europeans occupying suburban neighbourhoods close to the CBD in contrast to Africans who were located in peripheral segregated neighbourhoods. The model of sub-Saharan cities is shown in Figure 4.2, adapted from De Bliji (2007).

What can be learnt from the spatial structure of cities in the developing world is that no single theory can explain their spatial expressions. During the colonial era the urban managerialist paradigm was dominant as colonial settlers applied technical principles, chiefly zoning, in the planning of cities. This is notable in the planning of cities such a Nairobi in Kenya and Johannesburg in South Africa where zoning was applied with racial elaborations. Zoning was used as a way of advancing spatial segregation, with different racial groups allocated to different residential areas in the city. The privileged White minority race allocated itself well located and environmentally friendly inner city areas in proximity to socio-economic facilities. The subjugated Black race was mostly peripherally located in exclusive Black townships with limited socio-economic opportunities.

Figure 4. 2: Model of sub-Saharan cities



Source: Deblij (2007: 281)

In this light one notes that to some degree the urban managerialist paradigm can be of use in understanding the underlying causes of the developing city morphology. Furthermore, in the face of problems of urban primacy in the developing world, it has been noted that governments adopted spatial deconcentration as a way of countering the problems of depressed regions. This in itself was a technical exercise. Most of these policies were influenced by modernist planning principles such as Robert Gedes‟ 1915 site survey analysis, a way of determining regional planning problems and invoking solutions. If one takes cognisance of how the central places theory of Walter Christaller (1933) influenced settlement planning in most developing countries as has been noted in the case of Zimbabwe and Israel; it becomes abundantly clear that the urban managerialist paradigm had a significant impact on the morphology of Third World settlements.

4.6 Conclusion

This chapter sought to provide a holistic analysis of settlement patterns and trends in the developing countries. It is based on the synthetic theory of settlements developed in the conceptual and theoretical framework whose key tenets are settlement function; morphology (spatial expression) and population clusters. The underlying rationale is that since developing countries are in the same epoch of development as South Africa, instructive insights might be drawn.

5 Chapter Five: Historical Evolution of Settlement Patterns and Trends in South Africa from the Colonial Period to the end of the Apartheid Era

5.1 Introduction

This chapter traces the historical evolution of settlement patterns and trends in SA from colonial times up to the end of the apartheid period in 1994. The aim is to pave the way for comparison with the post-apartheid settlement patterns and trends mapped in the following chapter as well as the in-depth analysis of the KZN province case study by providing the context for settlement development trends and patterns in the province. KZN is one of nine provinces in SA that was demarcated as part of apartheid reforms in 1993. Prior to the end of apartheid in 1994, the province was a microcosm of colonial settlement planning as it adopted spatial segregation policies from as early as the mid-19th century by introducing native reserves for Black settlement juxtaposed with White commercial farms. After the formation of the Union of SA in 1910, the native reserves were consolidated and at the height of apartheid, spatial segregation amongst races was institutionalized and implemented in both rural and urban areas. All these developments in the province are mirror images of developments in SA at large. An in-depth analysis and understanding of settlements patterns in KZN and trends can thus only be achieved through an understanding of the whole of which KZN is a part. The framework of analysis used is the synthetic theory of settlement patterns and trends developed in Chapter two; the conceptual framework of this research study. Thus key indicators of patterns and trends are function, population and morphology. Although there is fluidity in the historical epochs of SA because of policy duplication, this chapter is divided into three sections: Colonial times up to the formation of the Union of SA: 1652-1910; Formation of the Union up to the peak apartheid era: 1910-1948; and the peak apartheid era up to the Democratic Era: 1948-1994. What separates these epochs is the main thrust of settlement policies; nevertheless, this does not make them entirely autonomous as there has been a persistence of past trends and policies.

5.2 Colonial times up to the formation of the Union of SA: 1652–1910

The first group of Europeans arrived in South Africa in 1652 and landed at Table Valley in Cape Town under the leadership of Jan van Riebeeck, an officer of the Dutch East India Company, a merchant company from The Netherlands (Floyd, 1960; Houghton, 1976; Platzky, 1995). They established a settlement that was influenced by access to natural resources, mainly the availability of navigable water and arable land and security concerns. Van Riebeeck was charged with producing fresh victuals for Dutch ships cruising between East India and Holland (Floyd, 1960) and establishing a fort to protect them from their French and English enemies (Houghton, 1976). The

settlement only began to grow significantly after some members of the Dutch East India Company established themselves as free burghers, a development that gave rise to the need for administrative services.

5.2.1 Settlement Function and Differentiation

When van Riebeeck and his Dutch East India Company arrived at the southmost tip of the African continent, there were no other inhabitants. According to Houghton (1976), it was only half a century later that contact was made with the native Bantu speaking people slowly migrating southwards. The first group was the Bushmen and Hottentots who had no fixed abode, with the former being hunters and gatherers and the later nomadic pastoralists. According to Houghton (1976) these native groups were not significant in number due to the extensive nature of their economies and the prevalence of disease, specifically small pox.

The shift from crop cultivation to stock farming by some of the free burghers led to the rapid expansion of the Cape colony and further decentralization of administrative services (Floyd, 1960). Floyd notes that this led to the establishment of Stellenbosch in 1746 and Swertendam as administrative centres and Simonstown in 1680 as a habour and naval station. Therefore urban growth was prompted by the need for centralized administrative services for the sparsely populated farming community. These services were largely religious and were established with assistance of missionaries in the case of Stellenbosch which was established with the assistance of Dutch Reformed Church missionaries. The services also included local courts and administrative buildings.

During this early colonial period the main contributor to urban growth and urbanization was international migration in the form of slavery. According to Houghton (1976) the local people, the Bushmen and Hottentots, were averse to working for the European settlers, who had to resort of to slave labour mainly from the Indies and Madagascar. This sowed the seeds of a multi-racial society, and a new racial group, the Cape Coloureds, due to intermarriages and breeding.

The British annexation of the Cape in 1795 and its subsequent secession to the British in 1814 brought tremendous and far reaching changes to settlement patterns and trends not only in the Cape, but to the rest of South Africa. According to Houghton (1976) the British occupation of the Cape introduced ideas influenced by the French revolution that were anathema to the traditional frontier Dutch farmer. These ideas opposed slavery. The main developments noted by Houghton (1976) in this regard were the introduction of the Circuit Court in 1812 that heard cases brought by servants against their masters, Ordinance 50 of 1828 which removed travel restrictions on coloured people

and the appointment of civil magistrates and qualified judges to establish the rule of law in the Cape. These developments triggered what is historically known as the Great Trek, a term which captures the migration of Dutch-speaking farmers from the Cape Peninsula into the interior of South Africa. Houghton (1976:5) notes:

> Never very amenable to government from Cape Town, resentful to new laws and attitudes towards Hottentots, slaves and Black Africans, and wearied by repeated depredations of their farms and the lack of protection for their wives and children on the frontier, they turned their wagons northwards and trekked into the great interior away from British colonial rule.
>
> In grand strategy of conflict between white and black, the Great Trek was a wide encircling movement. Across the present Orange Free State and Transvaal, over the Drakensburg mountain range, they finally reached the sea in Natal.

The Great Trek triggered conflict between the Dutch-speaking farmers and the native population groups, mainly the Zulus and the Xhosa. However, it should be noted that conflict was not limited to the Boers and the native tribes; it occurred between British and Boers as well, as the British were not amenable to the idea of the Boers occupying strategic coastal areas. Houghton (1976) notes that the British annexed Natal from the Boers, driving them back to the Drakensberg. The net result of the Great Trek was that in 1848 British sovereignty was proclaimed over the land between the Orange and the Vaal Rivers and in 1852 and 1854 the British recognized the independence of the Transvaal and Orange Free State respectively as Boer Republics.

The Great Trek affected the spatial distribution and role of settlements in South Africa in that some urban centres were established as central places to serve the White farming community, while others were established as military outposts during conflicts between the Europeans and the and the natives and between the Boers and the British.

Floyd (1960) points out that during this period towns were established to cater for the administrative needs of the population of an area or region, with the Dutch Reformed Church establishing towns to serve the spiritual needs of the colonists of a district. In the case of the Transvaal Republic, Floyd notes that towns were sited as administrative centres of districts and to serve as religious, business, trading and social centres to suit the needs and carrying capacity of the land. Floyd also points to the case of the Orange Free State, where the distances between the old towns varied from 30 to 50 miles (as with Natal); in the Transvaal towns were between 30 and 100 miles apart and in the Cape Province 20 to 100 miles. Only in the dry areas such as the North West Cape, the Transvaal bushveld and the Transvaal lowveld were farms as far as 100 to 200 miles from a town. Furthermore, in addition to good distribution, physical environmental considerations such as good terrain, availability

of water and good communication were considered in the location and spatial distribution of towns (Floyd, 1960). As such it can be discerned that the need for centrally located services and physical environmental factors influenced the location and spatial distribution of towns in South Africa. Tables 5.1, 5.2, 5.3 and 5.4 show the towns that were established in South Africa between 1826 and 1900, the reasons for their establishment and the source of the initiative came in the four provinces under European control, namely, the Cape, Natal, Orange Free State and the Transvaal.

Table 5. 1: Towns established in Natal between 1826 -1900

Town	Date established	By whom established	Reasons for establishment and other remarks
Charlestown	1889		
Dundee	1835	Voortrekkers	First grew as a trading settlement before the Voortrekkers" arrival but it was laid out by them
Durban	1880-90		Harbour
Eshowe	1880		District centre
Estcourt	1848		District centre
Grey town	1854		District centre
Howick	1850		District centre
Ladysmith	1850		District centre
Newcastle	1863	Dr Sutherland	Mining centre
Paulpietersburg	1888		Administrative centre
Pietermaritzburg	1839	Voortrekkers	Capital of Natalia Republic
Pinetown	1849		
Port Shepstone	1867		
Richmond	1850		District centre
Scottburgh	1860		
Stanger	1873		
Utrecht	1853		Administrative centre
Umkomaas	???		
Verulam	1850		
Vryheid	1884	Lukas Meyer	Administrative centre. Capital of New Republic
Weenen	1839	Voortrekkers	District centre

Source: Floyd (1960: 26)

Table 5. 2: Towns established in the Cape Colony, 1826-1900

Town	Date established	By whom established	Reasons for establishment and other remarks
Aberdeen	1856	Dutch Reformed Church	Church and district centre
Adendorp	1858		
Barkley East	1873		District centre
Bedford	1854		District centre
Burghersdorp	Feb. 1846	Dutch Reformed Church	Church and district centre
Calvinia	1851	Dutch Reformed Church	Church and district centre
Carnarvon	1853	Governor	Administrative purposes
Cathcart	1858	Governor	Military purposes
Ceres	1854	Jan Munnik	Town centre for district
Colesberg	Nov. 1830	Governor	Administrative purposes
East London	1872		Grew up as Harbour and trading town. First used to land military stores and later merchandise, 1846
Engobo	1876		
Fort Beaufort	1822	Governor	Military purposes
Grey town	1854		
Jansenville	1854		
King William's Town	1835		Grew up from mission and trading post
Kokstad	1871		
Knysna	May 1871		Habour
Ladysmith	1852	Dutch Reformed Church	Church and district centre
Mafeking	1885	Government	Administrative purposes
Middelburg	1852	Dutch Reformed Church	Church and social centre
Montagu	1856	Dutch Reformed Church	Church and district centre
McGregor	1861		
Morreesburg	1882	Dutch Reformed Church	Church and district centre
Napier	1838	Dutch Reformed Church	Church and district centre
Oudtshoorn	1857		Church and district centre
Piketberg	1840	Dutch Reformed Church	Church and district centre
Prince Albert	1842		First called Zwartberg and renamed in 1845
Queenstown	1853	Governor	Administrative and military purposes
Robertson	1853	Dutch Reformed Church	Church and district centre
Riversdale	1838	Dutch Reformed Church	Church and district centre
Richmond	April 1843	Dutch Reformed Church	Church and district centre
Stanford	1856		
Sterkstroom	1875	Dutch Reformed Church	Church and district centre
Schoemansdorp	1841		
Victoria West	1844	Dutch Reformed Church	Church and district centre
Vryburg	1880		Established on the old site of Huhudi and became capital of Stellaland Republic
Villiersdorp	1841		
Wellington	1840		

Source: Floyd (1960: 21-22)

Table 5. 3: Towns established in the Orange Free State between 1826-1900

Town	Date established	By whom established	Reasons for establishment and other remarks
Bloemfontein	1846	Government	Site selected in 1846 by Maj. Warden as seat of British Resident. It became the capital of the Orange Free State in 1848
Bethulie	1863		Developed as French mission station. First called Boesmanskool, later Caledon then Heidelberg and finally, in 1872, Bethulie.
Boshoff	1856	Dutch Reformed Church	Church and district centre
Bethlehem	1859		First called Pretoriuskloof. First erven sold in 1860
Bothaville	1889		District centre
Brandfort	1875		Laid out and first erven sold in 1866 by a commission
Bultfontein	1873		Private initiative
Dewtsdorp	1880		Laid out in 1879
Edenburg	1862		
Fauresmith	1849	Dutch Reformed Church	Church and district centre
Ficksburg	1891		District centre
Fouriesburg	1892		District centre
Frankfort	1878	Dutch Reformed Church	Laid out in 1869 as a church and market centre
Hoopstad	1873	Government	Administrative centre
Harrismith	1849		Administrative centre
Heilbron	1872		First erven sold in Sept. 1872
Jacobsdal	1859		Formerly known as Kalkfontein
Jagersfontein	1852		Commenced as diamond diggings in 1870
Koffiefontein	1892		Commenced as diamond diggings. Mine established 1870. In 1888 a request to have the settlement declared a town was refused
Kroonstad	1854		The site was selected by Land Surveyor J.M. Orpen and the town planned by him in 1854
Ladybrand			Administrative purposes. In 1880 there were 59 houses
Lindley	1875	Dutch Reformed Church	Church and district centre
Parys		Private	The town was established by private enterprise in 1876. A commission of the Volksraad investigated and approved the town in1882. By 1882, 300 erven had already been sold.
Petrusburg		Private	The town was laid out before it was officially established. There were 50 water and 375 dry erven
Philipolis			First established as a mission station for Bushmen in 1823. Later it became a Griqua mission under Dr. Philip. The Griquas trekked away in 1862
Reitz	1890		Administrative centre
Reddersburg	1861	Dutch Reformed Church	Church and district centre
Rouxville			District centre
Senekal	1877		Laid out in 1873 and first erven sold in 1875
Smithfield		Dutch Reformed Church and Government	Church and district centre
Taba 'Nchu	1892		Barong centre in 1883
Villiers	1891		
Vrede	1876		First erven sold in 1877
Vredefort	1878	Public commission	Church and social centre. First erven sold in 1876
Wepener	1875	Church	District centre
Winburg	1835	Voortrekkers	Site selected by Hendrick Potgieter. Seat of Adjunct Volksraad of Republic of Natalia. Later Capital of Provisional Government of Orange Free State
Zastron	1875		District centre

Source: Floyd (1960: 24-25)

Table 5. 4: Towns that were established in the Transvaal, 1826-1900

Town	Date established	By whom established	Reasons for establishment and other remarks
Andries-Ohrigstad	1845	Hendrik Potgieter Voortrekker leader	Served as capital of Transvaal Republic
Bethal	1898		District centre
Barberton	1884		Mining centre
Boksburg	1887	Government	Mining town laid out under Gold Law
Bloemhof	Aug. 1864		District centre
Christiana	1870		District centre
Ermelo	1880	Dutch Reformed Church	Church and district centre
Germiston	1886	Government	Mining town laid out under Gold Law
Heidelberg	March 1866	Dutch Reformed Church	Church and district centre
Johannesburg	1866	Government	Mining town laid out under Gold Law
Klerksdorp	1837		Settlement formed in 1837 and 'old town' established. New town portion was laid out by government in 1886 as a mining town under the Gold law
Krugersdorp	1887	Government	Mining town laid out under Gold Law
Lichtenburg	1873	Government	Commandant Hendrik Greef purchased two farms and offered them to the Government to establish a town. The town was proclaimed by President Burghers in 1873. District centre
Lydenburg	1849		District centre. Sub-capital of portion of Transvaal Republic
Middelburg	1864	Dutch Reformed Church	District centre
Nylstroom	1864		Firstly called Nazareth, District centre
Piet Retief	1883	Government	District centre
Potchefstroom	1838	Hendrik Potgieter Voortrekker leader	Sub capital of Republic of Natalia and later for a time capital of Transvaal Republic
Potgietersrus (Piet Potgieters Rust)	1832		District centre (first named Vredenburg)
Pretoria	1855	Government	M.W. Pretorious took the initiative in the establishment of Pretoria. It was named after Andries Pretorius, Voortrekker leader and in 1860 became the capital of the Transvaal
Pietersburg	1886		Administrative centre
Roodepoort-Maraisburg	1888	Government	Mining town laid out under Gold Law
Rustenburg	1851	Dutch Reformed Church	Administrative centre
Schweizer Reneke	1892		District centre
Standerton	1876		District centre
Ventersdorp	1887		District centre
Vereeniging	1892		District centre
Volksrust	1887		District centre
Wolmaransstad	1891		District centre
Zeerust	1868	Dutch Reformed Church	Church and district centre

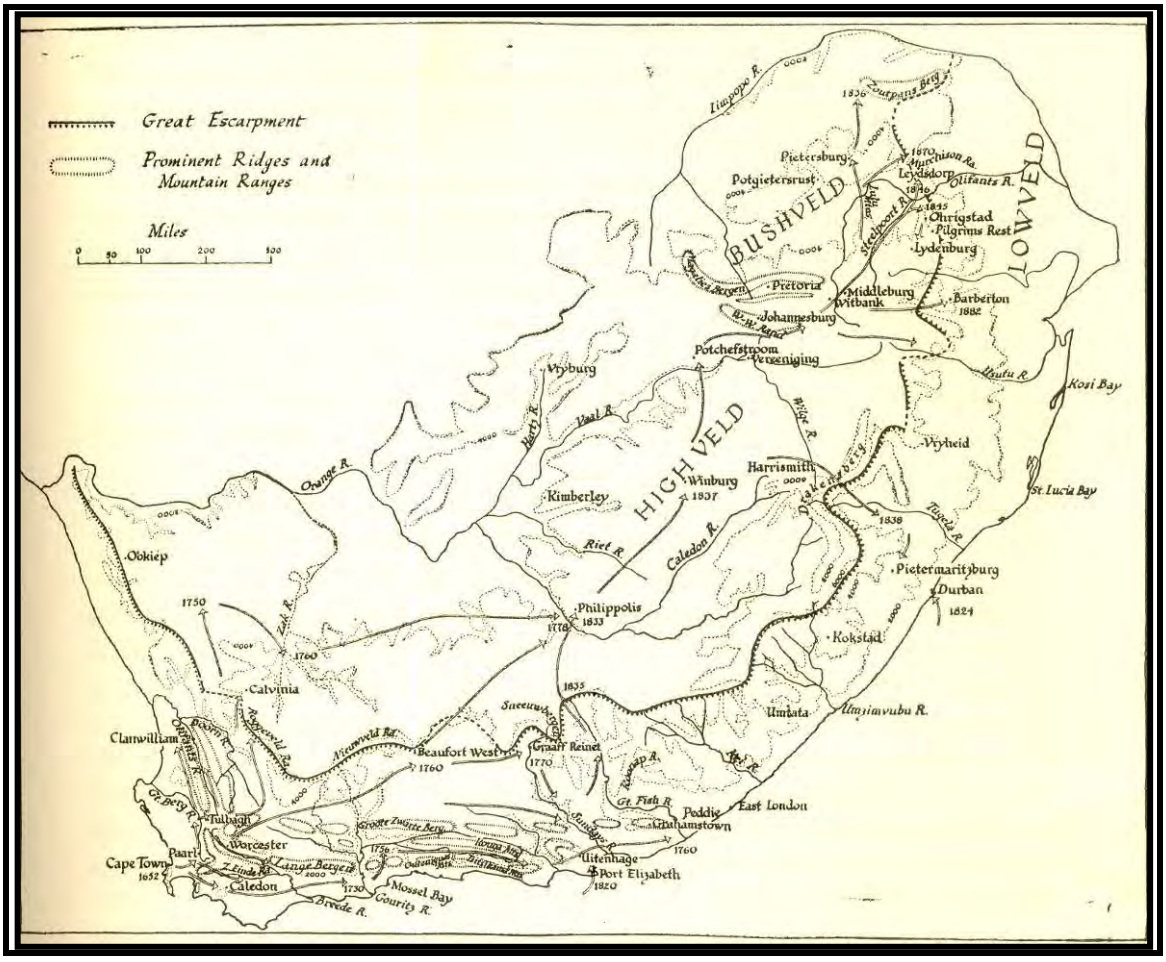
Source: Floyd (1960: 22-23)

By 1870, while the British had consolidated their control over Natal and the Cape and the Boers had done the same in the Orange Free State and Transvaal, the space economy of South Africa, according to Browett (1976), was still tentative and embryonic in nature:

> Thus during the Pre-industrial Period several elements were found in the patterns of spatial arrangement which have persisted to the present. These included the commercial arable areas of the South Western Cape and the Natal Coastal, the limited economic development in the western, central and northern Cape Province, the pastoral areas of the Eastern Province and southern Orange Free State, many of the Black areas, the major ports and inland administrative centres, and many of the local administrative centres of the four provinces
>
> Browett (1976: 13).

Following the granting of independence to the Transvaal, the Orange Free State, the Cape Colony and Natal in the year following the political settlements, different environmental conditions were largely responsible for the economic and social development of the colonies and republics along divergent lines (Cole, 1966). This is demonstrated by the fact that the Boer territories, the Orange Free State and Transvaal, were mostly on the Highveld whilst the British territories were mostly on the Lowveld. These areas are shown in Figure 5.1 below, adopted from Cole (1966), which shows progress in European settlement.

Figure 5. 1: The Progress of European Settlement in South Africa by 1970



Source: Cole (1966: 107)

During this period, agriculture dominated the economy of South Africa as indicated by the dominance of wool as an export commodity between 1846 and 1866 (Houghton, 1976). This is illustrated in Table 5.5 adopted from Houghton (*ibid*) below. Browett (1976: 9) notes that the Southern Africa (as South Africa was known before the Union of South Africa in 1910) economy may be summarized as one in which national political unity was lacking, economic activity patterns

were almost entirely of a local agrarian character and the sparsely-settled population lived predominantly in isolated farmsteads, kraals or small towns, with very few transport connections.

Table 5. 5: Wool Exports in South Africa between 1846 and 1866

1846	R356 000
1856	R1 676 000
1866	R4 164 000

Source: Houghton, (1976: 10)

While physical, geographic characteristics differentiated settlements in South Africa, a significant differentiating factor of European settlement during this period was also the distribution of native populations. According to Cole (1966) the paths followed by the Boer trekkers were determined, in the first instance, by the distribution of the native population and thus within the Boer territories of Transvaal and the Orange Free State there were no significant native populations. However, Cole (*ibid*) notes that this was in contrast with the British territories of the Cape and Natal where there were significant native populations which could neither be ousted from the land nor be absorbed into the European communities. The solution was setting aside large native reserves and the development of separate Black and White communities. Cole highlights that in the Orange Free State and Transvaal, the Voortrekkers encountered only small and scattered tribes whom they retained on condition of good behaviour without security of tenure. Furthermore, it is also crucial to note that between the territories of the Boers and the British, Black settlement was also differentiated by racial attitudes. Cole (1966: 109) notes that Boers regarded the Bantu as inferior beings and the children of Ham, divinely appointed to be hewers of wood and drawers of water.

As Tables 5.1 to 5.4 show most of the towns that were established in South Africa after the discovery of diamonds in 1867 and gold in 1886 were mining towns. According to Platzky (1995) commercially exploitable diamonds were discovered in Griqualand West in 1867 and gold was discovered on the Witwatersrand in Transvaal in 1886. As shown in Table 5.3 the towns that were established due to discovery of diamonds in the Orange Free State (OFS) are Jagersfontein, established in 1870, and Koffiefontein in 1892. However, the most notable urban centre established due to the discovery of diamonds was Kimberly in the Cape Province. From Table 5.4 it can be seen that urban centres established due to the discovery of gold in the Transvaal are Boksburg (1887), Germiston (1886), Johannesburg (1886), Krugersdorp (1887), and Roodepoort-Maraisburg (1888).

The discovery of diamonds and gold greatly impacted South Africa‟s comparative advantage in relation to international trade. This is reflected by Houghton (1978: 13), who notes that the

spectacular effect of the discovery of diamonds from 1871 and gold from 1891 on the value of exports is seen in the fact that in the period 1901-5 gold and diamonds together accounted for R36 million out of a total value of exports of R48, 3 million per annum. This shown in Table 5.6 adopted from Houghton (1976) below. Thus the discovery and subsequent exploitation of diamonds and gold resulted in the transformation of the economy from one solely dependent on agriculture to one based on profitable mining, supported by the manufacturing and tertiary sectors (Nattrrass, 1981: 24).

Table 5. 6: Exports of South African Produce between 1820 and 1905 (R millions)

Annual average	Food and drink	Raw materials	Diamonds	Gold	Total
1821-5	0.3	0.1			0.4
1831-5	0.3	0.2			0.5
1841-5	0.2	0.3			0.6
1851-5	0.2	0.7			1.4
1861-5	0.2	3.8			4.2
1871-5	0.2	7.8	2.6		11.3
1881-4	0.2	8.2	6.5		16
1891-5	0.2	7.9	7.9	11.3	28.6
1901-5	0.1	8.7	11.6	24.4	48.3

Source: Houghton, (1976: 13)

The discovery of diamonds and gold led to the establishment of transportation networks in South Africa, especially the rail system. Abedian and Standish (1992) note that the factors that were responsible for the establishment of the rail system were the opening up of the coal fields for the generation of electricity; and the establishment of urban concentrations, commercial farming and manufacturing interests in the interior. Houghton (1976: 12) note that rails were pushed forward from Kimberley and then Johannesburg; while there were only about three kilometres of rail in South Africa in 1861, by 1891 there were 4,067 kilometres and by 1909 11,095 kilometres were in operation. Houghton (*ibid*) further points to the fact that the new source of wealth was able both to finance the construction and provide economic justification for the enterprise.

However, it should be noted the provision of the rail system in South Africa differentiated settlements depending on the interests that were being served by their provisioning. Rail links provided access to markets; their location (among the whites) of the Orange Free State (OFS) grain farmers allowed for the extension of domestic agricultural production (Kegaan, 1986: 102-4; cited in Platzky, 1995). Platzky (1995) argues that Black farmers suffered a decline in production as they were further squeezed into more marginal land further from the rail system because their interests were not represented in the state structures.

5.2.2 Population

As late as 1911, about half the White, Coloured and Asian people and 87% of the African people were rural dwellers; the entire urban population only numbered 1.5 million, widely distributed between two main centres and some 50 small towns and villages (Houghton, 1976: 121). Browett (1976: 21) notes that in 1911 the three main urban cores, Cape Town, Johannesburg and Durban, although home to only 8.3% of the total population of South Africa, possessed 35.5% of the total urban population; 31.8% of those employed in professional or commercial occupations; and 27.2% of all industrial workers. Browett further notes that it was in these cores that the manufacturing activities which came to dominate the national economy in the industrial stage of development came to be concentrated.

5.2.2.1 Urban growth and urbanization

Urban growth and urbanization during the period before 1910 was largely a product of international migration (immigration) and internal migration (rural to urban migration). Mabin (2001: 14) notes that rural-urban migration in South Africa on any scale should be considered to have started with conscious attempts by White colonial and Boer republican authorities to recruit labour for the farms and mines. Mabin points to the fact that from 1850 onwards massive foreign investment in the mining sector changed the character not only of mining towns such as Kimberley but also ports, transport points in between, and agricultural and commercial centres supplying produce to the mining towns. Thus Mabin (*ibid*) citing Jeeves (1985) highlights that from 1870 rural communities in South Africa took part in rural-urban migration than had never been witnessed before as they took advantage of aggressive recruiting for mining and other urban activities.

Immigration played a significant role in urbanization and urban growth in South Africa as the discovery of diamonds drew prospectors from Britain, North America, and Australia, who panned together with local Blacks and Whites for alluvial diamonds (Platzky, 1995). The discovery of gold and its subsequent exploitation prompted further immigration as the gold deposits in the Transvaal required shaft mining which required the recruitment of foreign capital and expatriate labour from the developed countries, mainly Britain. The role of mining in the demographic composition of urban areas in South Africa is summed up by Houghton (1976: 12) who notes that:

> The combined effect of gold and diamonds was to cause an almost insatiable demand for labour, and a huge and heterogeneous labour force came into being. Men from England, Germany, America and Australia, indeed from all parts of the world, came streaming in, and immigration between 1890 and 1913 averaged 24 000 per annum. Miners from Cornwall, Canada and Wales accustomed to a highly industrialized life, rubbed shoulders with

> thousands of farmers‟ sons from the backveld. Tens of thousands of Africans, from every tribe south of the Zambezi and from many farther north, worked shoulder to shoulder with traditional tribal enemies. At one time there were also over 50 000 Chinese indentured labourers.

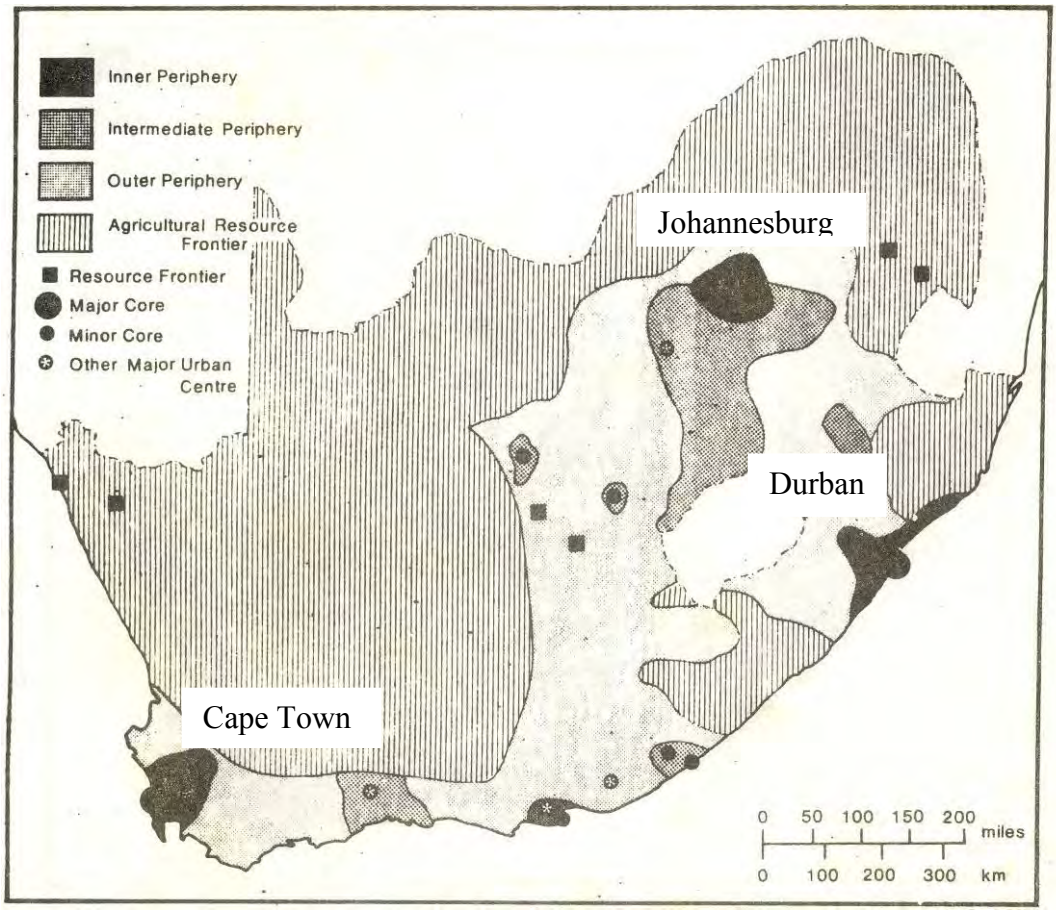
The tremendous role of the discovery of diamonds and gold in urbanization and urban growth in South Africa is reflected by the fact that:

> By 1871 the white population at Kimberley outnumbered all the whites that had taken part in the Great Trek (....). The urban population of the Transvaal increased from an estimated 4, 000 persons in 1870 to over 600,000 in 1911; largely a reflection of the growth of the Pretoria-Witwatersrand urban region, which in 1911 contained over half a million people (almost 35% of the urban population of South Africa), and the growth of Johannesburg which had replaced Cape Town as the largest urban centre in the country. Such was the dominance of the urban structure by mines and the ports that by 1911 the major diamond and gold mining centres comprised 37% of the total urban population, and for ports (Cape Town, Durban, Port Elizabeth and East London accounted for a further 23%) Browett (1982: 15 cited in Platzky, 1995: 71).

The dominance of the ports and mining towns in the South African urban system is shown in Figure 5.2 below adopted from Browett (1976) which shows the development regions in South Africa in 1911.

The main effect of mining on the function of settlements in South Africa is that it led to differentiation and functional integration of different settlements based on natural differences or comparative and competitive advantage. Browett (1976) notes that mining activities served to increase spatial integration through simulating economic development and growth and hence regional specialization, in areas which, due to functional complementarities, possessed inherent and/or comparative advantage for the production of inputs required for mining centres. Browett notes that prior to the discovery of minerals only one major core, Cape Town, existed, due to the increasing arable activities of the White farming community. After the discovery of minerals Johannesburg and Durban grew as shown in Figure 5.2, which shows two more cores on top of Cape Town. Of course Johannesburg grew as a direct result of mining activities and the migration of people for economic reasons. On the other hand, Browett (1976) notes, that Durban‟s rapid growth during this period can be attributed to the continued development of „White‟ arable activities in the contiguous hinterlands and by the growth of import and export trade routes for mining centres in the interior. Rail links from the mining fields stimulated port expansion in Durban (Platzky, 1995: 72).

Figure 5. 2: Development Regions in South Africa in 1911



Source: Browett (1976)

It should also be noted that within these urban centres there was spatial segregation of residential areas along racial lines. Although the reasons for the residential segregation of different races are open to debate, Maylam (1995) notes that the most notable are social, military and material. The first formal attempts at residential segregation along racial lines were instigated by the London Missionary Society (LMS) in 1834 and in 1850 the Municipality of Port Elizabeth established a Native Strangers Location for Hotentots, Fingoes and Kaffirs (Maylam, 1995: 22). Maylam argues that this was a military consideration as East London was a colonial military outpost and the imperatives of colonial defence shaped spatial arrangements.

The material sources of residential segregation during this period are exemplified by the case of Durban, where colonial White settlers controlled Indian settlement in a bid to curb Indian commercial competition (Maylam, 1995). Maylam (1995: 25) notes that although proposals for a separate Indian location in Durban did not materialize in the 1870s, the 1897 Licensing Act was used by the local council in Natal to withhold trading licences from Indians. Material reasons for

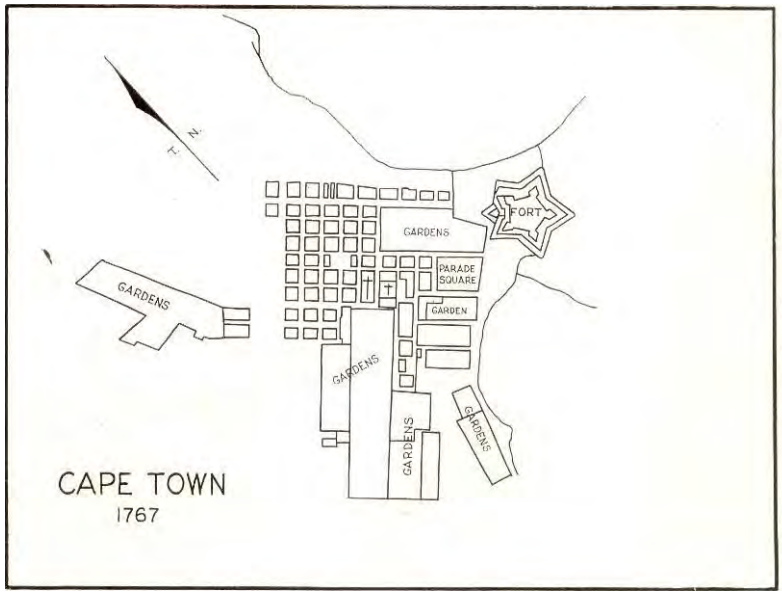
residential segregation also have origins in the mining towns of Kimberley and Johannesburg where industrialists sought to minimize the costs of labour by housing migrant labour in single sex compounds (Platzky, 1996). Mabin (1986, cited in Maylam, 1995: 23) notes that „Compound and hostel were essentially the first rigid form of segregation applied in the development of the South African city. Ordered townships were created in the wake of that experience.“

The health reasons for urban residential segregation arose from the fact that outbreaks of disease in the early towns were often associated with Black people. The expansion of capital seeking speculative and investment opportunities greatly changed the nature of urban growth in the 1880s and 1890s, and governments found themselves faced with the uncoordinated and often socially costly results of private development (Mabin and Smit, 2000: 194). The rapid urbanization of Black labour in a context where there was no formal provision of housing led to segregation of White and Black residential areas because of association of disease with Blacks. Maylam (1995: 24) notes that the spread of the bubonic plague around SA from 1901 to 1904 was always followed by increased demands by White rate payers for greater racial segregation. Maylam highlights that the popular name given to bubonic plague, „black death“ had unfortunate connotations as it became associated more with Blacks; this was not borne out by the number of Black people who fell prey to the disease.

5.2.3 Settlement morphology

The morphology of settlements in SA during this era was largely influenced by European traditions. According to Houghton (1976), around Cape Town, Dutch governors maintained their native land use patterns of cultivated fields, orchards, and vineyards characterized by intensive farming, the spacious elegance of old farm houses and estates and an established way of life. The earliest town, as shown in Figure 5.3 was characterized by a fort where van Riebeeck lived, housing for free burghers and gardens for the production of victuals. As such, the form represented the function.

Figure 5. 3: Morphology of Cape Town in 1847



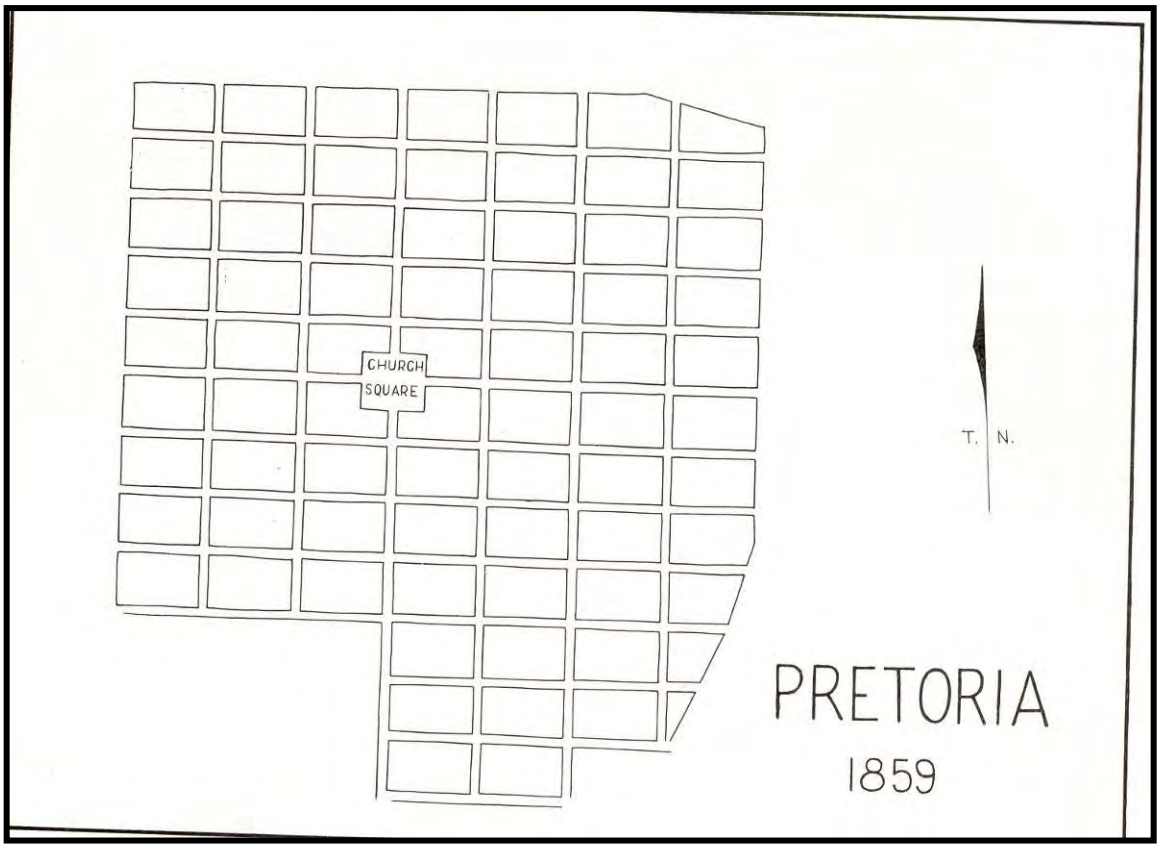
Source: Floyd (1960: 13)

However, it should be noted that early settlements in Cape Town were not significant in size. According to Houghton (1976: 5) after Napoleon invaded Holland in 1795, the same period the British occupied the Cape, the population of the 207,000 square kilometres was said to be 76,000 (26,000 whites, 30,000 slaves and 20,000 Hottentots (cited in Platzky, 1995: 69).

The spatial structure of colonial settlements in South Africa before 1910 was also drastically influenced by the garden town tradition. Floyd (1960) notes that a similarity could be drawn between the town erf and farmyard, as a farmyard would have its fowl houses, cowsheds, fruit trees and a vegetable garden attached to the homestead; the same applied to the town erf though at a smaller scale. This has been highlighted earlier in the case of Cape Town, whose morphology was influenced by the need to produce fresh victuals for passing Dutch ship as shown in Figure 5.3.

However, Tables 5.1 to 5.4 reveal that towns that were established between 1826 and 1900 were mostly administrative and religious constructs. According to Floyd (1960) the most common layout used by the old planners was the gridiron pattern, although with different characteristics in space and time, as the planners of different towns had varied expertise. Nevertheless, a common feature of the design of most of the old towns is a large church and market square, although some of these towns have only one of these. This is shown in Figures 5.4 and 5.5, which illustrate the original layout of the city of Pretoria in the Transvaal, with only a church square, and Vryheid in Natal Province, with both a church and a market square.

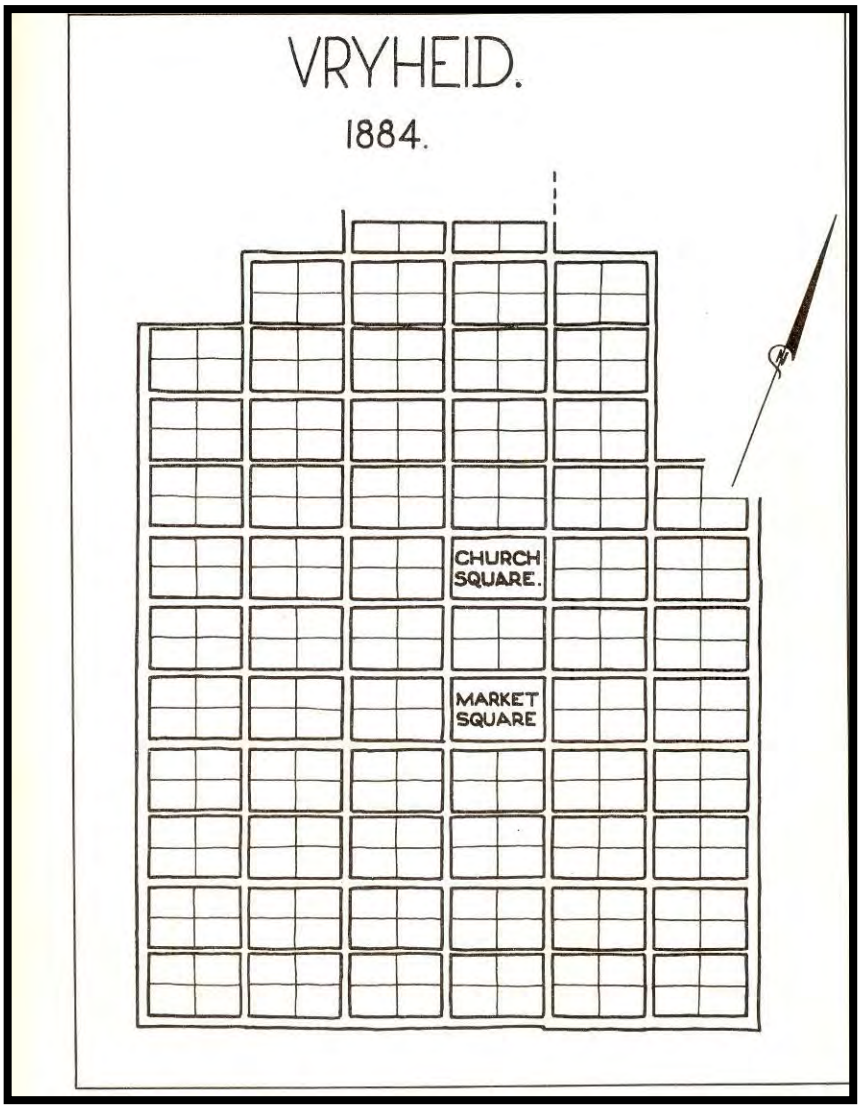
Figure 5. 4: Original Layout of Pretoria in Transvaal Province



Source: Floyd (1960: 30)

The morphology of administrative towns varied greatly from that of mining towns. Although most towns were deliberatively planned and laid out as towns, there are a few exceptions to this general form of development in mining towns such as Johannesburg and the reef towns that were laid out under the Gold Law (Floyd, 1960). Floyd (1960) notes that mining towns‟ layout was characterized by small blocks and stands with areas for parks and open spaces that were later on built on. Platzky (1995) points to the fact that in gold mining towns, men were housed in overcrowded and primitive compounds, given rations and paid low wages as the mines sought to keep their labour costs at a minimum.

Figure 5. 5: Original Layout of Vryheid in Natal Province



Source: Floyd (1960: 33)

It should also be noted the settlement system during colonial times was characterized by the major urban core areas of Cape Town, Durban and Johannesburg as shown in Figure 5.2 and small administrative towns. These were surrounded by commercial farming areas dominated by colonial settlers and native reserves occupied by Blacks, who mostly engaged in subsistence agriculture.

5.2.3.1 Paradigm underpinning the spatial structure settlements during the colonial period

The morphology of towns and farming areas in the European domains of the Cape, Natal, Orange Free State and Transvaal came about as a result of the rational and technical action of governments in these territories. When the British occupied the Cape Province they introduced freehold ownership of land which was given effect by the accurate measurement and preparation of diagrams as well as the

recording of ownership (Floyd, 1960). This process was carried out by professional land surveyors. Floyd (*ibid*) notes that in Natal, Transvaal and the Orange Free State the Voortrekkers, with their background in the Cape, introduced freehold ownership from the outset. The allocation of farms, according to Floyd (1960), was measured by a rider on horseback, a process soon followed by a survey and the preparation of diagrams. However in Bantu areas Floyd notes that land predominantly remained under communal ownership of either the state or the tribal chief. In as much as this sounds like an arbitrary set up, there was an element of rationality. The same technical rationality applied to the documentation of land ownership in farming areas was also applied to the planning and layout of towns before 1910. Floyd (1960) notes that their planning started with a council of prominent farmers selecting a site, followed by giving a surveyor instructions to design and peg out the streets and erven of the town. The same applies to mining towns, as a surveyor would peg out the stands in the townships.

The Anglo-Boer War from 1899 to 1902 also had a tremendous impact on settlement patterns and trends in South Africa, mostly in terms of their morphology and the racial differentiation of the factors of production, specifically the Black and White labour force. The Anglo-Boer War was triggered by tensions between the British and the Boers in the Transvaal Boer Republic. These tensions emanated from the fact that in as much as gold had been discovered in the Boer territory of Transvaal, the Boers had to attract foreign capital from the British as deep gold mining required huge capital injections that they did not have (Platzky, 1995). British capital investment in the Transvaal gold mines brought about a huge influx of British migrant workers which in turn led to the British migrant population outnumbering that of the Boers. This led to the British in Transvaal questioning the Boer authority, inevitably resulting in conflict.

After the Anglo-Boer War, in which the Boers were defeated there was a wave of speculation in the layout of townships as extensions or suburbs of the existing towns (Floyd, 1960: 40). Floyd (*ibid*) highlights that private enterprise had been freed from regulations that existed previously and the culture that took centre stage was that the development of urban land should be undertaken in the way the owner wished. Thus the morphology of cities in South Africa in the period immediately after the Anglo-Boer War was influenced by the need to regulate the private sub-division of land for urban use (Mabin and Smit, 2000).

Notable action in this regard included the enactment of Ordinance No. 57 in 103 in Transvaal, the Townships Ordinance No. 19 of 1905; Townships Act No. 33 of 1907 and the Township

Amendment Act No. 34 of 1908 (Floyd, 1960). Mabin and Smit (2000) note, that the initial stages of reconstruction in Johannesburg were assertive and successful as they witnessed the extension of boundaries, the laying of the foundation of the electric tramway system and the removal and redevelopment of unsanitary areas. The latter, according to Mabin and Smit (*ibid*), entailed the removal of the Black population from the city centre and their relocation 10 miles away in Klipspruit where part of Soweto (Pimville) stands today. Such measures, it is also noted, were also adopted in Cape Town and Port Elizabeth.

A key aspect of post Anglo-Boer War urban reconstruction is that in as much as it was embedded in the need to regulate the private use and development of urban land and create sanitary conditions in urban areas, it had serious racial implications and connotations as it segregated residential areas for Blacks through the establishment of townships. The layout and sub-division of townships was the domain of surveyors, who are technical people. However, in as much as there was some semblance of technical rationality in the use and subdivision of land, especially for townships, township establishment did not unfold harmoniously. Floyd (1960) notes that, townships were laid out without any consideration for the topography of the site or the coordination of existing layouts. As such Floyd points out that little attention was given to parks, open spaces, and other spaces; the gridiron street pattern was used without any imagination.

However, Mabin and Smit (2000: 195) note that with the establishment of the Transvaal Township Board, regulation was extended to all urban land development and usage. All applicants for land use were required:

> to make ample provision for a Location, Compounds, Depositing sites, Cemetery, Parks, Market Square, etc., etc. and to require endowments of up to 25% of the land in new townships to be transferred to the state or local authority.

The other major impact of the Anglo-Boer War was that it differentiated the factors of production along racial lines. This argument is well elaborated by Nattrass (1981: 62) who argues that the war contributed to the creation of a White working class and farmers and „by owners" who left farming to fight on one or other sides in the war. According to Nattrass (*ibid*) „the scorched earth policy" adopted by Britain"s Lord Kitchener in an attempt to quell Boer guerilla activities, contributed to the growth of White urban labour force as farmers and owners alike often found that they had no home to return to after the war. This is illustrated by the fact that, according to Nattrass, whereas in 1890, only 36% of whites lived in South African towns; by 1904 more than half (53%) were urban residents and by 1921 the figure had increased to 56%. The effect of this development was high

unemployment rates among uneducated Afrikaans-speaking Whites without industrial experience whose situation was worsened by competition from unskilled Black Africans willing to accept low wages.

5.3 Formation of the Union up to the Peak Apartheid era: 1910 – 1948

Platzky (1995) notes that after the defeat of the Boers in the Anglo-Boer War of 1899-1902 British imperialist policies prevailed and in 1910 the Union of South Africa was formed out of the two British colonies and the two defeated Boer colonies. According to Houghton (1976), in the mostly rural economy of 19th century South Africa many items which are now factory made, like bread, biscuits, ham, bacon, candles, clothing and footwear were home made. Settlements in South Africa were largely differentiated by colonial government policies after the formation of the Union of South Africa in 1910 and global forces such as the two world wars. Browett (1976) notes that during the 25 years of this period the patterns of spatial differentiation and spatial integration were subject to economic and political forces. On the one hand, according to Browett, economic forces made for an increasing differentiation of the national space economy as capital, labour entrepreneurs and industrial enterprise became concentrated in the core areas, whilst, on the other hand, the central government sought to modify patterns of spatial organization through the adoption of policies which promoted levels of economic welfare amongst Whites and encouraged further economic development in „White" areas, both rural and urban.

5.3.1 Effect of the formation of the Union of SA on the broad South African Settlement System

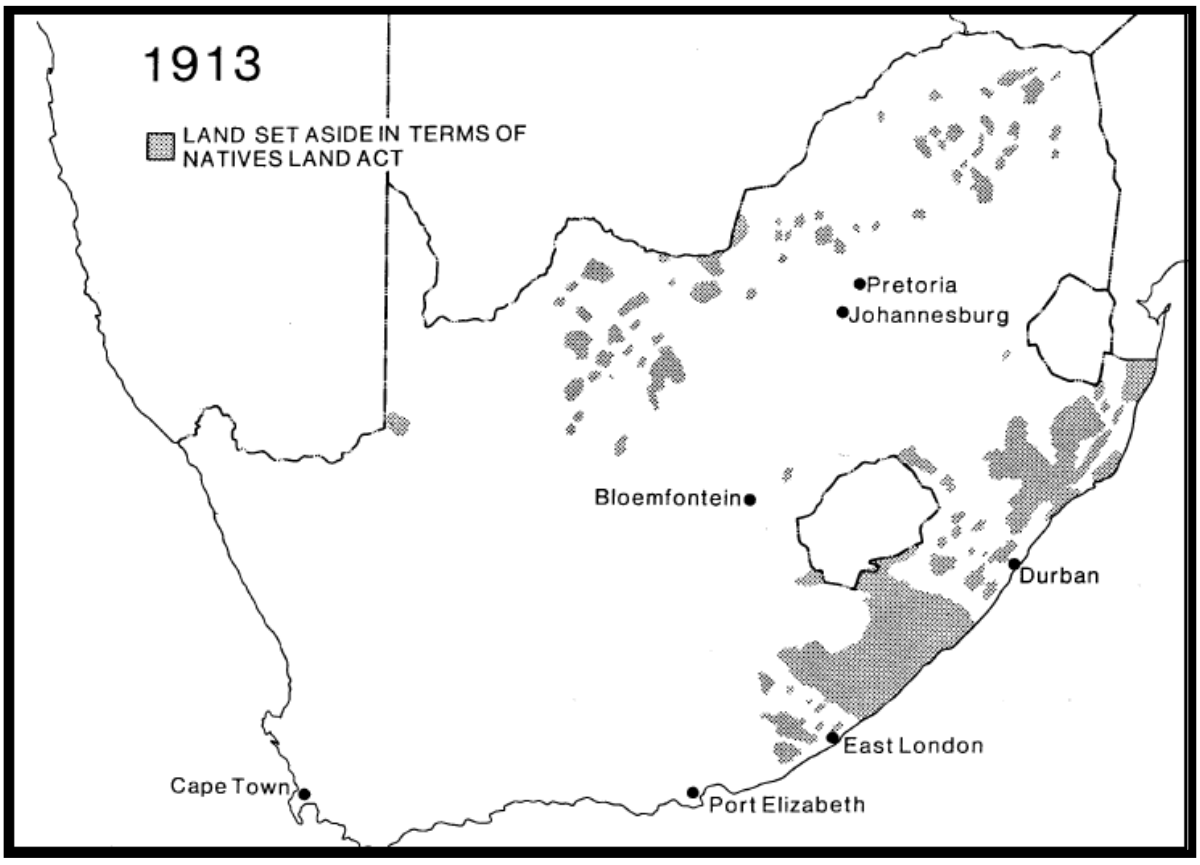
The Union aroused a surge in national feeling which expressed itself in a desire for industrial development and greater self sufficiency; by 1912, a number industries were established, including fruit and jam production in the south-western Cape, brewing in all major cities, and soap making in Durban, to mention but a few (Cole, 1966: 406). Furthermore, the Act of Union in 1910 created a common market for nearly six million people in a country of 1,220,000 square kilometers (Houghton, 1976: 14).

According to Platzky (1996) the challenge facing the new government of the Union of South Africa was competing labour interests between the two main sectors of the economy, agriculture and mining. This led to the introduction of the 1913 Land Act. According to Houghton (1976: 34; *cited* in Platzky, 1996), this Act reserved about 9 million hectares or 7% of South Africa for 67% of the country"s population. According to Platzky, the Act served the interests of agriculture in that White farmers objected to competition from Black farmers; the Land Act severely limited African land

ownership and removed thousands of sharecroppers from „White" areas in order to enhance white commercial farming. The Land Act of 1913 introduced uniformity by drawing up a schedule of all existing tribal land, mission reserves and some African-owned farms; it stipulated that no non-African could acquire land within a scheduled area and that non-Africans could acquire land outside a scheduled area (Houghton, 1976).

The 1913 Land Act effectively divided South African agriculture into two distinct components, namely, a subsector dominated by Whites and one under the control of Blacks (Nattrass, 1981: 98). The White sector contributes significantly to food production in the country, whilst, on the other hand, the Black sector"s contribution to the economy has largely been that of a supplier of labour, as it has deteriorated to a point where it is a net importer of food (*ibid*). The areas scheduled for Blacks and Whites in terms of the 1913 Land Act are shown in Figure 5.6 below.

Figure 5. 6: Native Reserves set aside in terms of the 1913 Natives Land Act



Source: Human Awareness Programme, (1989, D5 cited in Harley and Fotheringham, 1999: 22)

World War 1 from 1914-1918 stimulated the growth of the domestic manufacturing sector in South Africa as a result of shortages of imports (Platzky, 1996: 74; see also Houghton, 1976: 14). Although

some of the factories collapsed after the war most survived as a sympathetic government provided some measure of tariff protection (Houghton, 1976: 14). Nattrass (1981) notes that the rise of the manufacturing sector in South Africa is largely a product of Afrikaner nationalism, in particular a strange alliance in 1924 between White labour and White and Afrikaner dominated rural capital which resulted in the formation of the PACT government. According to Nattrass (1981: 163):

> Not only did this alliance entrench the economic position of both White labour and White farming interests, vis-à-vis those of the South African Blacks, but the PACT government also embarked on a determined policy of industrialization. This was achieved through direct investment and the creation of wide ranging set of protective tariffs designed to raise domestic price levels to the point at which certain commodities, previously imported could be profitably produced in South Africa.

Thus a key feature of industrial growth in South Africa has been government intervention in the establishment of primary industries as manifested by the establishment of the Electricity Supply Commission in 1923 and the establishment of the South African Iron and Steel Industrial Corporation in 1928, which culminated in the setting of up of the Industrial Development Corporation as a state-sponsored entity for the creation of new industries and modernizing existing ones (Cole, 1966: 407). According to Cole *(ibid*; see also Nattrass, 1981), this led to the establishment of an oil-from coal project (SASOL) near Vereeniging, phosphate deposits exploration (FOSKOR) at Palabora in the northern Transvaal, wood-pulp for rayon manufacture (SAICCOR) at Umkomaas, paper production adjacent to the Tugela river (SAPPI) and textile production near King Williams Town (the Good Hope Textile factory). In 1977 the public corporations contributed 11% to the country‟s total manufacturing production (Nattrass, 1981: 163).

In the 1920s the South African government also took active measure to promote White commercial farmers‟ interests. According to Platzky (1996) thousands of „*bywoners*‟ (poor White tenants) were removed from agricultural land to promote more profitable commercial use. However, the government could not afford to lose the support of these Whites who would face widespread unemployment. It therefore introduced the „civilized labour policy‟ aimed at incorporating Whites into the urban economy. It should be noted that the labour market in South Africa during this period, especially during the 1920s, was visibly segmented along racial lines.

Van der Horst (1971; cited in Nattrass, 1981) notes that skills were largely monopolized by the Whites, particularly White immigrants recruited for the mining industry and White wages were typically between four and ten times higher than those paid for to Black migrant workers. Although this scenario can be traced back to the discovery of minerals, it was entrenched in the 1920s with its

touchstone being the Rand Strike of 1922. In this strike White workers rebelled against government‟s decision to treat Black workers not very differently from them. Although the strike was violently quashed it resulted in the PACT government coming to power in the 1924 elections; this government represented the joint interests of White and Afrikaner workers. According to Nattrass (1981) the PACT government introduced a raft of labour laws which seriously segmented the labour force along racial lines, namely, the Industrial Conciliation Act, No. 11 of 1924 and the Wages Act No. 27 of 1926. Their effect, as Nattrass points out, was to legally entrench the superiority of White labour. The Industrial Conciliation Act reserved certain jobs for Whites in order to shield them from competition by Blacks. The policies were mainly designed to take care of White tenants (*bywoners*) who had been ejected from the land during the rationalization of commercial farms as well as unemployed poor Whites in cities. The outcome was that most Whites in urban areas ended up occupying high paying, skilled jobs, with Blacks relegated to low paying, manual jobs. It should be noted however, that the policy did not only differentiate between Black and White labour but between White males and females. Platzky (1996) notes that gender differentiation grew as employers could employ more White women than men at lower wages. The segmentation of the South African Labour force along racial lines can be discerned from Table 5.7, adopted from Nattrass (1981), which shows personal income by race.

Table 5. 7: Racial Shares in Total Personal Income

Population Group	1924/25	1946/7	1960	1970	1975
African	18	20	19	19	24
Asian	2	2	2	2	2
Coloured	5	4	5	5	6
White	75	74	74	74	68

Source: M.D McGrath, Racial Income Distribution in South Africa Black/White Income Gap Research Report No. 2. Department of Economics University of Natal, Durban, 1977, and J. Nattrass, „Narrowing Wage Differentials', South African Journal of Economics, Vol. 45, No. 4, December 1977. cited in Nattrass, (1981: 30)

Cole (1966: 403) notes that during the late 1930s many industries were established; by the outbreak of the Second World War in 1939 South Africa was already emerging as an industrial nation although mining and industry dominated the economy. However, the outbreak of war stimulated the further development and diversification of the manufacturing sector, as the country was cut off from overseas supplies of manufactured goods (Cole, 1966). Houghton (1966: 16) notes that a war time commission had stressed the need to stimulate the processing and manufacture of articles from South African raw materials, and to encourage import replacement and exports.

The location of industry during this period was influenced by factors of production such as access to markets, ease of assembly of raw materials, supplies of power and water and the existence of labour pools (Cole, 1966). These factors have clearly differentiated settlements and regions in South Africa as they are not uniform and constant across the country. As shown in Table 5.8, adapted from Cole (1966), most of the industries were located in the major urban centres, namely, Cape Town, Port Elizabeth, East London, Durban-Pinetown, and Johannesburg (Southern Transvaal) by 1950.

Table 5. 8: The distribution of Industrial Employment in the Republic of South Africa

Area	1937-8 All Races Number	Percentage	1948-9 All Races Number	Percentage
South-west Cape	56,197	16.1	109,628	16.4
Port Elizabeth	15,746	4.5	34,838	5.2
East London			11,575	1.7
Durban-Pinetown	36,771	10.6	74,511	11.2
Southern Transvaal	156,338	44.9	292,731	43.8
Bloemfontein			11,445	1.7
Total Industrial Areas	265,052	76.1	542,363	81.2
Rest of the Republic	83, 468	23,9	125, 857	18.8
Total	348, 520	100	668, 220	100

Source: Cole (1966: 411)

Cole (1966; See also Nattrass, 181: 180-182) notes that the iron and steel industry is located in the Witwatersrand area because it is a focal point for the assembly of all raw materials and it is also close to the market; wool combing is located in Port Elizabeth because of its closeness to raw materials; Durban is home to soap making due to access to the port as an entry point for soap making ingredients such as caustic soda and vegetable oil, although the soap making industry also exists in Cape Town and Johannesburg because of the availability of a market; and jam making industries are located in fruit growing areas such as Cape Town, Paarl, and Port Elizabeth. Southern Transvaal is a major market area because it has the largest population concentration in Southern Africa and other industries have been attracted by ports as in the case of Cape Town and Durban.

It should also be noted that the development of communication systems in South Africa has largely been influenced by patterns of economic development. As noted earlier, during the period from colonial times to the formation of the Union of South Africa in 1910, rail communication was stimulated by the discovery of minerals and the need to supply mining towns with food from the farming communities.

Cole (1966: 494) highlights that the backbone of the rail system in South Africa was laid during the period 1870 to 1900; 1900 to 1914 witnessed the building of connecting links and branchlines; and after 1918 the focus was on improving facilities with regards to relaying heavy rails, track doubling and electrification; provision of new goods yards and stations; and improvement of port facilities in relation to increasing volumes of goods handled.

As for the road system, Cole (1966) notes that South Africa had an extensive road network, but few good roads apart from the streets of big towns; only the trunk roads linking Johannesburg with Durban, Cape Town, Lourenco Marques, the coast road from Durban to Port Elizabeth and Cape Town, part of the Great Trek road from Pretoria and short sections on main roads had tarmacadamized surfaces. In terms of air transport Cole (1966) notes that its development has been phenomenal since the Second World War although its history dates back to 1934 when the South Africa Railway Administration assumed control of South African Airways (which by 1966 was known as Union Airways) between Durban and Cape Town.

5.3.1.1 Settlement Differentiation in Rural Areas

Another key feature differentiating the South African space economy between 1910 and 1948 was the existence of dual agriculture systems, namely, a vibrant commercial farming sector on the one hand and a backward subsistence agriculture sector in the native reserves, where the majority of the Africans lived. This was given effect by the by the Land Act of 1913 and the Native Trust and Land Act of 1936. Houghton (1976: 22) notes that in 1951 some 43% of Africans lived in the Bantu areas, some 30% on farms owned by Whites, and 27% of Africans lived in cities and industrial areas across the country. A worrying feature of this divide in the agriculture sector was the socio-economic situation of Africans in the native reserves. Houghton (1976: 45) notes that the commercial agriculture sector of White farmers was highly productive and market oriented whilst subsistence agriculture in the reserves was characterized by unsustainable, primitive farming methods. Houghton highlights the fact that a combination of overcrowding due to population growth and bad farming practices created a dire situation in the reserves. Houghton (*ibid*) cites the assessment of these reserves by the Native Economic Commission in 1932, wherein it was reported that:

> The worst effects of overstocking may be seen in some parts of the Ciskeian area, notably Middledrift, Herschel, and Glen Grey. In Middledrift there are large areas where the surface soil has been entirely eroded and no grass whatever grows…Unless precautionary measures are taken against overstocking, the condition in the Transkei and Native areas in the rest of the Union will be tomorrow what that of the Ciskei is today. The same causes are at work there, and they will inevitably produce the same effects in the near future – denudation, donga

> erosion, deleterious plant succession, destruction of woods, drying up of springs, robbing the soil of the productive properties, in short the creation of desert conditions.

The non-viability of African agriculture in the native reserves was exacerbated by fact that native reserves had few or no formal employment opportunities to sustain their populations. Two Commissions, the Economics and Wages Commission, reporting in 1925 and the Native Economic Commission in 1932, both pointed out that, in their opinion, the areas set aside for Blacks could be developed to a point where they supported their populations. Not surprisingly, as subsistence agriculture became more and more unproductive, Africans began to throng to the cities in search of economic opportunities. The 1945 (Native) Urban Areas Act, passed in order to prevent such migration, proved futile (Browett, 1982: 20; cited in Platzky, 1995).

Urban bound migration from native areas normally occurred in a circular fashion, dominated by men who returned to the „reserves" periodically with remittances. Cole (1966) argues that this system, which led to many male Africans becoming temporary workers in the towns, allowed them to retain land rights in the reserves, where their wives and the rest of the family remained, but led to the breakdown of moral standards and high crime rates in the cities. Furthermore, the influx of Africans into the cities created housing shortages and the affiliated problem of overcrowding and transport bottlenecks.

The problems caused by the differential allocation of land between Whites and Blacks in South Africa, as well as labour policies that favoured Whites at the expense of Blacks occurred at a time when Whites were increasingly becoming agitated by their own situation. Firstly, in as much as the „civilized labour" labour policy and the raft of labour laws which were passed during this period differentiated the labour market in favour of Whites they did not nullify the problem of poor Whites in the cities that they partially sought to address. Secondly, another significant factor that also played a part in the differentiation of labour during this era was the outbreak of the Second World War. When the war broke, out according to Platzky (1995), many Whites left to fight; they returned to find Blacks in occupations they used occupy and enjoying the socio-economic privileges they used to enjoy, as White employers had trained the Blacks to fill the void they had left. On the other hand, agriculture failed to attract sufficient Black people, as it did not pay as well as the manufacturing sector. Campaigning around the problems facing Boer commercial agriculture and White workers in the urban areas, the National Party took over from the PACT government in 1948; a development that had serious repercussions for South Africa"s future, as it paved the way for apartheid.

5.3.1.2 Settlement differentiation in urban areas

It should also be noted that between 1910 and 1950 residential differentiation along racial lines was perpetuated for health and material reasons that had arisen during the colonial era. During the colonial era, this was operationalized in the Republics of Transvaal and Natal by the creation of Townships Boards. The creation of centralized administration through the Union of South Africa in 1910 bolstered residential segregation; Mabin and Smit (2000: 196) note that:

> Certainly, Herbert Baker‟s 1911 plea for „„central government‟‟ to have wide discretionary powers, acting through trained experts …. able to control the laying of townships in their infancy….. to limit the number of houses per acre in different zones … to preserve sites for public buildings, and the location of factories had been realized only partly before the First World War laid the foundations for a new era of urban reconstruction.

This can be viewed as the further entrenchment of modernist planning principles in the planning of land uses in cities in general and the creation of racially segregated neighborhoods in particular. Mabin and Smit (2000: 197) note that during the First World War a new approach to the planning of South African cities began to emerge due to rising costs, housing shortages and the growth of slums in cities. This was also in the face of disease outbreaks, namely, the 1914 and 1917 Tuberculosis and Influenza outbreaks respectively, both which were blamed on the Black slums (Maylam, 1995). The outcome was the passing of the Public Health Act of 1919 and the Housing Act in the mid-1920s (Mabin and Smit, 2000). Maylam (1995: 27) notes that from 1910 the discourse of public health, expressed in the 1919 Public Health Act, increasingly viewed disease in racial terms and promoted segregation as a solution to urban health problems that were perceived to be underlined by the over-crowded residential conditions of urban Africans.

The differentiation of urban residential areas along racial lines for health reasons agitated for by public health legislations and for material reasons as per the 1923 Native Urban Areas Act was made effectual by modernist planning ideologies. Mabin and Smit (2000) note that during the period 1914-18 the garden city movement was introduced in Cape Town in particular and in South Africa in general by Richard Stittaford, a merchant and member of the Union of SA cabinet. They note that Stuttarford used his personal resources and influence in government to launch the Garden Cities Association, consequently establishing Pinelands, “South Africa‟s first Garden City”, a distinct middle class suburban location on the fringe of 1920 Cape Town and a project that influenced the suburban layout of South African cities for decades to follow. Furthermore, Mabin and Smit (*ibid*) note that in 1931 the Transvaal Ordinance was passed with the objective of controlling land use in South African cities through zoning.

The entrenchment of modernist planning principles with racial elaborations during the period between 1910 and 1950 occurred in 1938 at the Congress International de „Architecture Moderne" (CIAM) which was held at the University of the Witwatersrand in Johannesburg, where a „model native township" was presented. According to Haarhoff (2010) this model was produced as a thesis by one of the students at the university to demonstrate the application of rational, modern planning and design approaches to achieve radical social change.

Mabin and Smit (1997; cited in Haarhoff, 2010: 3) also point out that the post-Second World War reconstruction unleashed a modernist planning fervor, leading to the establishment of regional planning authorities charged with the task of planning for industrialization and urbanization. The establishment of the Social and Economic Planning Council (SEPC) to provide advice to the South African government on urbanization, planning and segregation was embedded in the modernist planning discourse, whose basis was British Planning studies. Mabin and Smit (*ibid*; in Haarhoff, 2010) highlight that the council introduced the notion of creating coherent communities separated by „green belts", based on a modern planning instrument of the New Town Planning Movement in America and Britain. However, Mabin and Smit argue that separating communities by green belts was "translated" into planning for racially distinct zones. Mabin and Smit sum up the recommendations of the SEPC as follows:

> The Union (of South Africa) has a large and growing permanently urbanized non-European population. The Council… therefore, urges that in the layout of new townships, the replanning of existing ones and the creation of state subsidized housing scheme, full use should be made of the principle of planned neighborhoods, protected from other neighborhoods by „green belts" of cultivated and parkland……

5.3.2 Population

According to van Tonder (1990) the total population of SA at the beginning of the 20th century was estimated to be at 5.2 million growing at a rate of around 2.1% per year. However, it should be noted that during the period between 1911 and 1921 the population of all the sub-groups underwent sharp declines due to the influenza epidemic which increased death rates and lowered birth rates (*ibid).* By the time of union, the population of South Africa was very heterogeneous in culture, language, and race. Four main population groups could be identified namely, Whites, Africans, Coloureds and Asians (Houghton (1976: 33, see also Nattrass, 1981).

The rate of annual growth for the African sub-population group is shown in Table 5.9 below, adopted from Houghton (1976). From the table (Houghton, *ibid*) notes that the annual rate of population

increase rose steadily, a trend largely attributed to natural increase as the birth rate increased in the face of declining death rates.

Table 5. 9: The average annual percentage increase in the population between censuses

	1911 - 21 (10 years)	1921 - 36 (15 years)	1936 - 46 (10 years)	1946 - 51 (5 years)	1951 - 60 (9 1/3 Years)	1960 - 70 (10 years)
Whites	1,76	1,86	1,70	2,18	1,69	2,11
Africans	1,57	2,29	1,73	1,79	1,90	3,25
Coloured people	0,37	2,32	1,89	3,51	3,43	2,94
Asians	0,86	1,90	2,65	5,15	2,87	2,65
Total	1, 49	2,19	1,76	2,10	2,54	2,99

Source: Houghton (1976: 35)

Between 1911 and 1970, Houghton (1976) notes that the total population increased from slightly less than six million to more than 21 million which was accompanied by an increase in *per capita* income. As shown in Table 5.10 below, Houghton (*ibid*) notes that the racial composition of the population also altered gradually during this period as the percentage of Whites declined slightly, with the other three sub-groups rising. The explanation given for the increase in the African population is more complete enumeration and immigration; Houghton notes that the 1960 national census recorded that 583,000 Africans were born outside South Africa. The increase in the White population of 2.18% per year between 1946 and 1951, shown in Table 5.9 above, is also attributed to immigration. Increases in the Asians and Coloured populations are attributed to high birth rates and an increase in life expectancy.

Table 5. 10: Racial composition of the South African population in 1911, 1960 and 1970

	1911%	1960%	1970%
Whites	21,4	19,3	17,5
Africans	67,2	68,3	70,2
Coloured people			
Asians	2,6	3,0	2,9

Source: Houghton (1976: 34)

During this period it could also be discerned that besides the major concentration of people in the major urban areas, which was the result of economic activities and natural resources, variations in population density could also largely be attributed to the racial distribution of population that was imposed by the division between Whites and Blacks rooted in SA politics (Cole, 1966). Cole (*ibid*) notes that the distribution of the White and African population faithfully reproduced the division of land between them, though with important corollaries of African townships that formed appendages of the major White towns as well as the large number of Africans who lived and worked on White farms. At the time of the union in SA, racial population distribution had been set by the creation of native reserves; in the Cape, Whites occupied the western side of the Fish River, with African

occupying the Ciskei and Transkei and in present day KZN, Whites and Asians occupied Natal and Africans, Zululand; Coloureds were mainly concentrated in the Cape.

There were significant differences in population densities among the racial groups, especially between the African reserves and commercial farming areas. Cole (1960: 667) reported that the average population densities in Native reserves was about 60 persons per square mile compared to four Whites and 35 Natives per square mile on the White-owned lands in the better watered parts of the Transvaal Highveld, in Natal and the south eastern Cape. Cole further emphasizes that in some cases, in Native reserves like Transkei, densities were as high as 90 persons per square mile.

Houghton (1976: 25) notes that from 1911 legislation designed to protect the privileged position of Whites had had the effect of restricting economic opportunities for other groups and prevented optimum resource allocation. The inferior economic position of Blacks during the period is reflected in Table 5.11 on the following page, adopted from Leibbrandt *et al* (2010), which shows that from as early as 1917 in terms of annual *per capita* income, Africans played an inferior role relative to other races.

Population distribution among the four main population sub-groups during this period also varied along the rural-urban divide. Thus, culturally Africans vary from simple tribesmen still engaged in traditional subsistence farming to highly sophisticated townsmen permanently domiciled in industrial towns (Houghton, 1976: 34). The variances in lifestyles are summed up by Nattrass (1981: 9) who notes that:

> These are extremely wide and range from lifestyles of the simple tribesmen, who spend their lives engaged in subsistence farming activities and whose lives are organized almost entirely by tribal customs; through the „half life" of the rural urban migrant, who lives as a single individual in the town separated from his family and home in the rural area, to the lifestyle of the Black town dweller, who is in general highly sophisticated and is frequently a second or third generation townsman (Nattrass, 1981: 9).

Table 5. 11: A compilation of estimates of annual per capita personal income by race group in 2000 rands relative to White levels, 1917 -2005

Year	White	Coloured	Asian	African	Average
Per capita income in constant 2000 Rands:					
1917	13 069	2 875	2 894	1 184	3 946
1924	13 853	2 770	2 694	1 099	4 137
1936	19 212	3 000	4 443	1 462	5 359
1946	26 252	4 280	6 037	2 331	7 556
1956	30 494	5 158	6 668	2 627	8 541
1960	31 230	4 977	5 340	2 532	8 378
1970	45 751	7 929	9 248	3 133	11 140
1975	49 877	9 688	12 687	4 289	12 696
1980	48 340	9 238	12 304	4 088	11 818
1987	45 828	9 572	13 823	3 879	10 661
1993	46 486	8 990	19 537	5 073	11 177
1995	48 387	9 668	23 424	6 525	12 572
2000	56 179	12 911	23 025	8 926	16 220
2008	75 297	16 567	51 457	9 790	17 475
Relative per capita personal incomes (% of White level):					
1917	100	22	22.1	9.1	30.2
1924	100	20	19.4	7.9	29.9
1936	100	15.6	23.1	7.6	27.9
1946	100	16.3	23	8.9	28.8
1956	100	19.9	21.9	8.6	28
1960	100	15.9	17.1	8.1	26.8
1970	100	17.3	20.2	6.8	24.3
1975	100	19.4	25.4	8.6	25.5
1980	100	19.1	25.5	8.5	24.4
1987	100	20.9	30.2	8.5	23.3
1993	100	19.3	42	10.9	24
1995	100	20	48.4	13.5	26
2000	100	23	41	15.9	28.9
2008	100	22	60	13	23.2

Source Leibbrandt *et al* (2001) and Leibbrandt *et al* (2010: 13)

5.3.2.1 Urban growth and urbanization

Since 1910 census data on urban growth and urbanization has been understood in terms of the administrative boundaries of colonial authorities. Up until 1995 all census and official statistical surveys in South Africa used the concept of „rural" to refer to farms, sparsely populated areas (not strictly agricultural), wilderness and forest areas, squatter camps away from towns, small towns and villages, displaced urban areas and settlement clusters that are dependent on transfers (Republic of South Africa, 1998; cited in Sadiki and Ramutsindela, 2002: 75). However, being the smallest unit against which information is collected, the Enumeration Area (EA) is aggregated to other

administrative units such as provinces, municipalities, electoral wards, etc. to produce meaningful information for planning and decision-making (Laldaparsad, 2006: 1).

With the exception of commercial farms, during this era most Blacks lived in rural areas (Sadiki and Ramutsindela, 2002) as most of the urban areas were found in the three-quarters of the land allocated for White settlement under the 1910 National Constitution for the Union of South Africa. According to McCarthy (1992: 27) during this period White South Africa was defined in terms of the 1910 Constitution and the 1913 and 1936 Land Acts, wherein three-quarters of the country made up of the best agricultural areas, and the entire urban hierarchy belonged to the White minority race and the remainder to the Blacks.

As such, during the period 1910-1950, urbanization and urban growth trends should be analyzed in the context of a racialized administrative rural/urban divide given effect by the influx control legislation. Influx control legislation was designed to control the movement of Blacks into areas allocated for Whites in terms of the 1910 Constitution and the 1913 and 1936 Land Acts. The Native (Black) Urban Areas Act No 21 of 1923, which was superseded by the Native (Urban Areas) Consolidation Act No 25 of 1925 divided South Africa into „prescribed" (urban) and „non-prescribed" (rural) areas, and strictly controlled movement between the two (Body-Evans, 2011). In none of the areas allocated for Blacks in terms of the Native Land Act of 1913 were there areas administratively regarded as urban. Laldaparsad (2006: 4) points to Smit (1979) who reported on the „suggestion that „rural villages" be established to for Blacks employed in industrial and other sectors, which was accepted for the first time in 1945 by the General Council of Ciskei and Transkei (Rogers, 1949; cited in Smit , 1979). Laldaparsad further highlights how the 1913 Land Act sought to entrench rural lifestyles for Africans in Native reserves. Laldaparsad (2006: 4) citing Fair (1982) notes that:

> Fair (1982) talks about the 1913 Land Act "….. in particular sought to under develop the African peasantry by inhibiting its productive capacity and by limiting its access to land and markets. Moreover, the Native Reserves to which the peasantry was then largely confined, became a „vast reservoir of migrant labour" – „*a sponge that absorbs, and returns when required, the reserve army of African of African labor'* (Bundy, 1979, in Fair, 1982). Production in the reserves was preserved at a low, mainly subsistence, level which „conferred direct benefits upon urban employers – particularly in the mines in the form of low wages, cheap housing, the avoidance of welfare considerations for workers" dependants, and a brake on the growth of an urban proletariat" (Bundy, 1979; in Fair, 1982).

In this context of a racialized administrative construction of urban/rural areas, Geyer (2003) identifies four main types of areas in South Africa which he uses to analyze urban growth and

urbanization in South Africa using inter-censual data for the period 1904–1991, namely, core regions, regional centres, small towns and rural areas. In some studies, however he provides a slightly different set of areas as the basis for the analysis which made up of core regions, satellite regional centres, peripheral regional centres, and small towns.

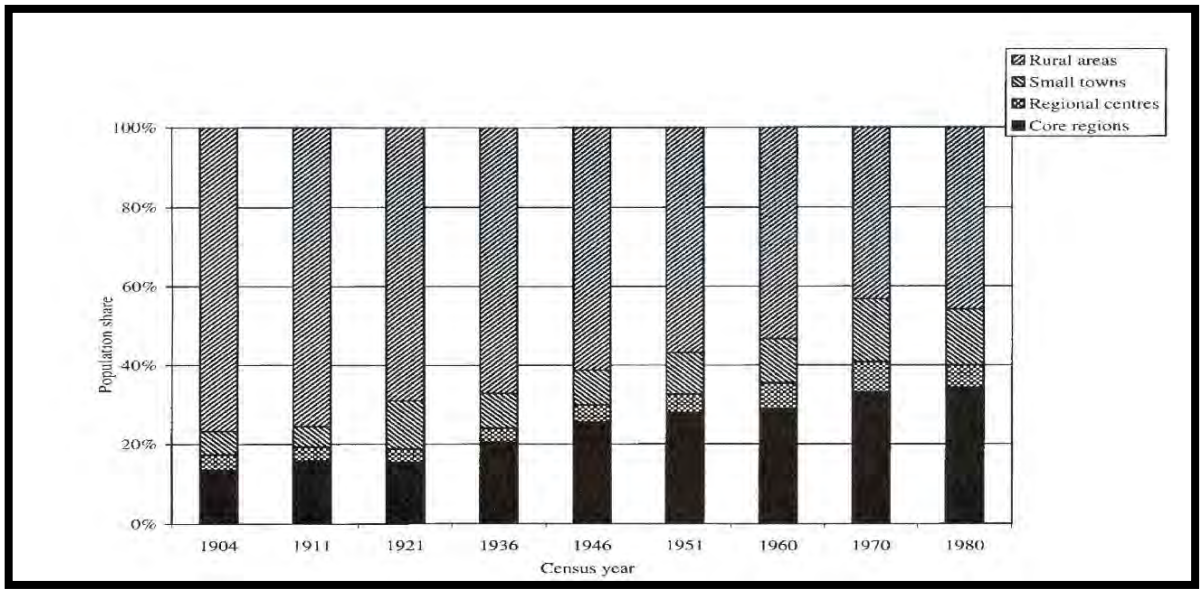
Core regions are urban centres that dominated the urban system due to their natural advantage and natural resource localization, namely, Cape Town, Johannesburg, Durban and Port Elizabeth. By the turn of the century they had become metropolitan complexes as in the case of the Cape Town Peninsula, the Pretoria-Johannesburg-Vereeniging urban complex, the urban Pinetown area and the Port Elizabeth-Uitenhage area. Satellite regional centres, according to Geyer (2003), represent intermediate sized urban areas inside a radius of 150 km from core regions, such as Klerksdorp, Witbank and Rustenburg; they were relatively standalone in relation to the core region before conurbation took place. Peripheral regional centres refer to the standalone cities located deeper in the periphery, whilst small towns fall at the bottom end of the hierarchy below the peripheral regional centres.

Urban growth and urbanization trends based on these categories of settlements are shown in Figure 5.7 and Figure 5.8 below, adopted from Geyer (2003: 93-94). One of the main trends that can be discerned from Geyer‟s analysis of urban growth and urbanization is that by 1904, the bulk of South Africa‟s population resided in rural areas (approximately 70%). Most of the urban population was concentrated in the core regions. From Figure 5.8 below Geyer highlights that before 1921 there was a significant growth of peripheral centres (1904-1911) and small towns (1911-1921) prior to the significant growth of satellite towns between 1921 and 1951.

Geyer (2003) explains this in terms of stepwise migration on the part of the poor rural White population escaping poverty in the aftermaths of the scorched earth policies adopted by the British during the 1889-1902 Anglo-Boer War. According to Geyer the poor Whites first migrated to small towns and peripheral regional centres before they started migrating to core regions and satellite regional centres due to economic opportunities presented in the core areas, as the manufacturing sector expanded. The migration of Whites to urban areas was also perpetuated by the rationalization of commercial agriculture noted earlier which made the situation of *bywoners* precarious. With the manufacturing sector expanding in the period between 1910 and 1950 Blacks also migrated to urban areas in large numbers due to the economic opportunities presented by this sector. Regardless of the influx control legislation, Blacks migrated to satellite and core regions. Geyer (2003), reports that a

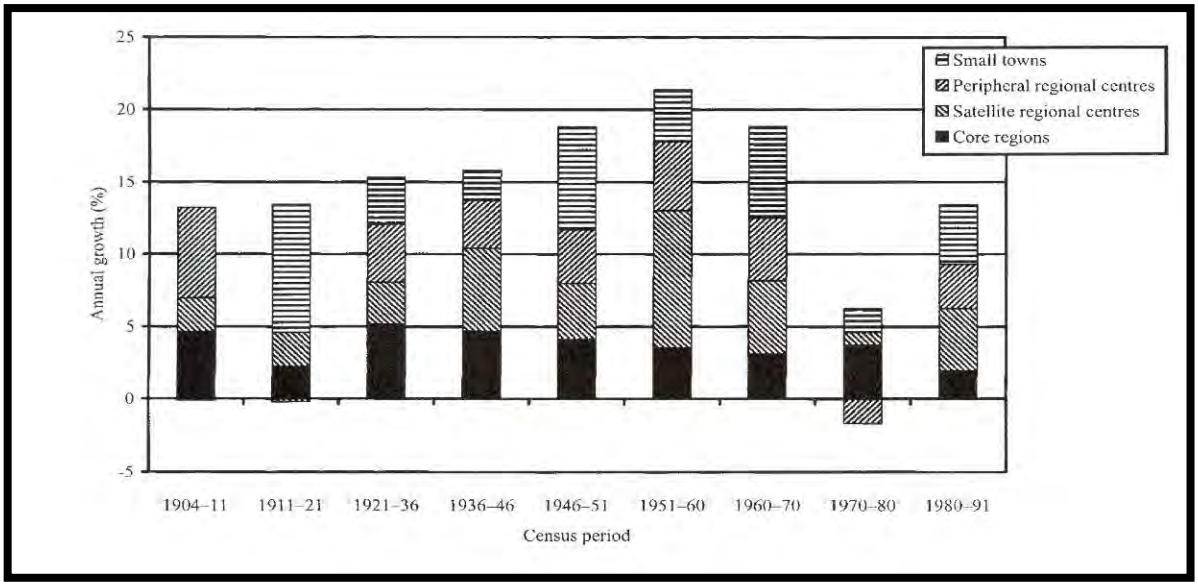
second wave of urbanization occurred in 1936 due to trying circumstances during the great drought and Great Depression which forced people to give up farming and look for work in the Johannesburg-Germiston Area. However, he highlights that the Black population remained largely rural. This is confirmed by Figure 5.7 which shows that the percentage of black urbanization was less than that of Whites during this period.

Figure 5. 7: Proportional population growth of urban areas in South Africa, 1904 - 1980



Source: Statistics South Africa (cited in Geyer 2003: 93)

Figure 5. 8: Cumulative annual growth of urban categories in South Africa, 1904 - 91



Source: Statistics South Africa (cited in Geyer 2003: 94)

It can be discerned that by 1950 South Africa had reached the second phase of urban growth, the intermediate primate city phase, where the city develops a number of suburban nodes concomitantly with certain intermediate size towns. This is indicated by the growth of satellite centres around core regions shown in Figure 5.8 which became significant between 1946 and 1951, peaking between 1951 and 1961. One can argue that the urban system was approaching the advanced primate city phase where the primate city becomes large and synonymous with problems of congestion and diseconomies, leading to the development of a multi-centered city.

This can be explained by various factors. Firstly, the government policy of self-sufficiency which encouraged the development of manufacturing sector was complemented by factors of production such as the availability of labour and agglomeration economies in the major urban centres that had developed due to natural advantage to stimulate the growth of these major urban centres. Secondly, these developments were also complemented by the development of road networks in the country which also facilitated decentralization of core regions in the form of suburbanization and the development of satellite centres. Thirdly, modernist planning principles that were given racial elaborations such as the garden city movement influenced urban growth in South African cities. Different suburban residential neighborhoods were planned for different races. Maylam (1995) points to Lamontville in south Durban, McNamee Township in Port Elizabeth and the Dube homeownership scheme, all of which were residential areas developed within garden city traditions for the Black middle class in the 1930s and 1940s. Maylam highlights that although they were segregated from White areas, they were part of the liberal policy adopted by the White government that preceded apartheid, as they aimed at fulfilling the needs of the aspirant Black middle class.

The quality of life of Africans in urban areas during this period was also class differentiated as the ruling White minority party that preceded the apartheid regime was biased towards an aspirant Black middle class in urban areas. The dominant mode of accommodation for low class, Black workers was either a compound or a single-sex hostel. Maylam (1995) notes that, compounds and hostels represented a form of differential accommodation that separated single migrant workers from other urban residents; they were characterized by a lifestyle of violence. On the other hand Maylam (*ibid*) notes that attempts were also made during the course of the 20th century to provide class differentiated accommodation by providing „superior" accommodation for the aspirant Black middle class. Thus quality of life was differentiated along class lines amongst the African population.

Nevertheless, it should be noted that, overall, housing provision for Africans was inferior relative to other races in urban areas. This was because the supply could not match the demand due to the high rates of rural-urban migration among Africans. The outcome was overcrowding in the African middle class neighborhoods as homeowners erected backyard shacks to accommodate the excess migrants. Bank (2007) points to the case of Duncan Village in East London, where he notes that backyard shacks emerged as significant social spaces in the 1930s as housing provision for Africans had been frozen in the 1920s. Bank highlights that life in the backyard shacks was often congested and communal facilities for cooking, washing and ablutions were very crowded.

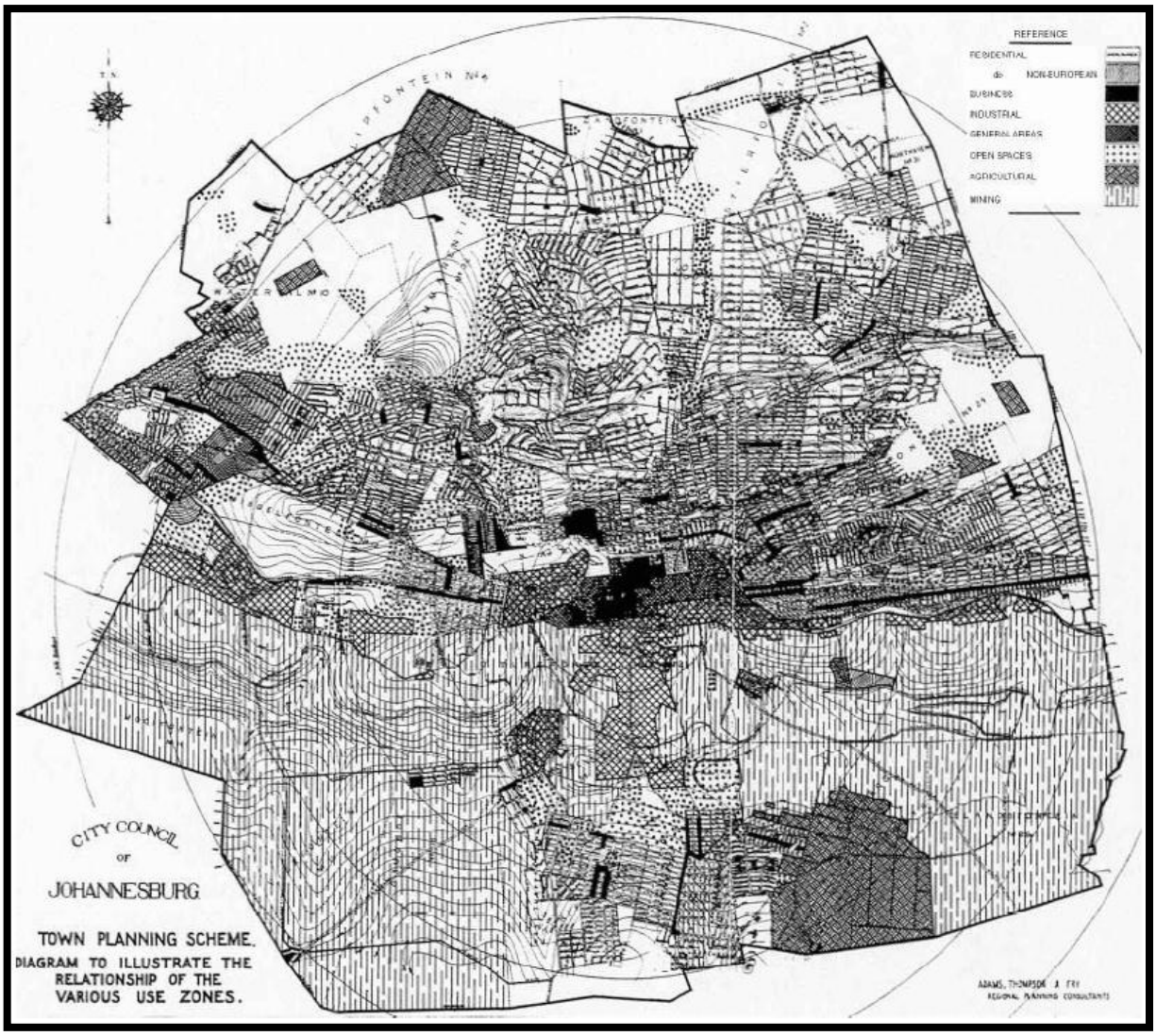
5.3.3 The spatial structure of settlements

The spatial structure of the South African city during the period between 1910 and 1948 was a spatial manifestation of policies that differentiated the economy as well as factors of production along racial lines. Zoning was the chief agent that operationalized the spatial manifestation of these policies in urban areas. The Housing Act in 1919 and the Native Urban Areas Act of 1923 called for the creation of different residential zones for different races. The scope of this legislation was broadened by the Transvaal Ordinance of 1931 which was drafted along the lines of the 1919 British Town Planning Act (Mabin and Smit, 2000). According to Mabin and Smit (*ibid*) it paved the way for the preparation of schemes by local authorities to control land use, density, building size and position which are traditional planning technical controls.

The spatial structure also reflected the administrative function of and industrial functions of cities during this period. The spatial structure of cities during this period is reflected in Figure 5.9 below, which shows the first town planning scheme of Johannesburg that was drafted in 1930.

The spatial structure of urban areas in South Africa during this period could largely be explained by the urban managerialist paradigm. This is unlike the period before 1910 where mining capital largely determined the spatial structure of the city. The establishment of the Union of South Africa ushered in a modern era in South Africa as the central government took centre stage in determining the social, political and economic affairs of the country. The usefulness of the urban managerialist paradigm in explaining the spatial structure is demonstrated by the way the Native Affairs Department was conceived in South African urban areas in the 1920s. Maylam (1995; citing Robinson, *Power of Apartheid*, pp 133-141) highlights that from the 1920s urban „native administration" was constituted as a specific field of study, the terrain of experts with specialized knowledge.

Figure 5. 9: First Town Planning Scheme of Johannesburg, 1930



Source: Mabin and Smit (1997: 201)

The morphology of rural settlement could also partially be explained through the technical rationality thesis which is embedded in the urban managerialist paradigm, as spatial planning principles were applied to the planning of reserves as a way of improving agricultural productivity. However, for areas under tribal authority, traditional rulers determined land use and spatial arrangements.

5.4 Peak apartheid era up to the Democratic Era: 1948 to 1994

When the National Party came to power in 1948, it introduced a number of measures designed to separate South Africa‟s racial groups and legally entrench the position of Whites at the heartland of South Africa‟s economy (Nattrass, 1981: 192). Segregation along racial lines was established at the biological, economic, spatial and socio-political levels. During this period the haphazard racial

segregationist legislation introduced in the previous epoch such as the Urban Areas Act of 1945 was replaced by systematic discrimination in all spheres of life.

5.4.1 Apartheid legislation that differentiated settlements along racial lines

According to Nattrass (1981: 192) the Prohibition of Mixed Marriages Act of 1949, the Population Registration Act of 1950 and the Immorality Act were all aimed at establishing racial segregation at what Davernport (1977) referred to as the „biological level." The Mixed Marriages Act of 1949 stipulated that a White person was permitted to marry or have a sexual relationship with a non-White person (Black, Coloured, Indian and Chinese). The Population Registration Act of 1950 stipulated that at birth people could be classified as Coloured, Indian, Black African or White, whilst the Immorality Act also sought to prevent sex or extramarital sexual affairs between Whites and the other races classified by the Population Registration Act.

The Group Areas Act of 1950, the Amendments to the Urban Areas Act of 1952, 1957, 1964 and 1971 together with other various related Acts were designed to strengthen the economic position of Whites in cities at the expense of Blacks. The Group Areas Act required segregation within discrete areas, of the four racial groups recognized by the Population Registration Act in South African cities (McCarthy, 2001). As such in cities and towns different districts were demarcated and ownership of property was restricted to the race the district had been assigned to (*ibid*). Amendments to the 1945 (Native) Urban Areas Act of in 1952 increased restrictions on the movement of Africans into cities. Also related to these laws is the Prevention of Illegal Squatting Act of 1951 which aimed to eradicate informal settlements in urban areas, which were regarded as the creation of the White man. The bottom line of the Group Areas Act; the Amendments to the (Native) Urban Areas Act of 1952 and the Prevention of Illegal Squatting Act of 1951 was entrenching the dominance of Whites in cities in terms of access to socio-economic opportunities by spatially segregating them and restricting urban bound movement from rural areas and within the urban areas themselves. As such they did not address the labour needs of commercial agriculture, a promise that National Party had made before its assumption of power in 1948. Accordingly, the Minister of Native Affairs Hendrik Verwoerd, who later became Prime Minister in 1958, and his government also passed the Bantu Education Act in 1953. This Act was meant to address the labour needs of Boer commercial farmers, as Black children were given only rudimentary education. Verwoerd argued that; „There is no place for (the Bantu) in European community above the level of certain forms labour…." (Dr H.F. Verwoerd, quoted in Peter 1966: 83-4; cited in Platzky, 1966).

The main tool used to promote the doctrine of separate development in urban areas was modernist planning which was given racial modifications as in the previous era. Zoning was used to enforce residential segregation along racial lines. Haarhoff (2010: 4) notes that under apartheid land was allocated for occupation by different racial groups and residential areas treated as „racial zones". Citing Floyd (1951) Haarhoff explains that „Township Layout" listed „Native Locations" as separate „zones" from „Residential Areas" areas implying that the term „location" was an area set aside for occupation by Africans and that „Residential Areas" were areas set aside for exclusively White occupation. Furthermore, Haarhoff emphasizes that areas for Black occupation were normally on the periphery of cities and in some instances in adjacent „Bantustans"; areas close to city centres were demarcated for the Indian, Coloured and White races. Buffer zones were used to separate races; these varied from 200 to 500 yards and included railway lines, main roads, rivers, streams and ridges (Floyd, 1960 cited in Haarhoff, 2010).

The planning of residential areas during the apartheid era was influenced by modernist planning principles championed by the likes of Patrick Gedes, Clarence Stein and the Radburn layout principles. Haarhoff (2010) explains that a key to the implementation of apartheid after WW2 was the planning and construction of mass housing schemes to enforce comprehensive residential segregation. A key challenge to this agenda was cost minimization. Haarhoff notes that the Centre for Scientific and Industrial Research (CSIR) was tasked with drawing up national building standards for state funded housing that minimized cost. Calderwood"s thesis, published in 1953 which focused on the implementation of government"s post-WW2 township housing at minimum cost had a central influence. Haarhoff highlights that the work adopted a technical approach focusing on housing standards, and neighborhoods, drawing its legitimacy from the seminal works of the likes of Patrick Geddes, Lewis Mumford, and Clarence Stein to mention but a few. Furthermore, it is also important to note that segregated townships were also conceptualized along the lines of new towns.

In line with the doctrine of separate development, the Bantu Self Governing Act was passed in 1959. This Act recognized eight separate African national units on ethnic grounds and set up the institutional machinery that would enable the eventual development of self-government entities based on these ethnic groupings (Nattrass, 1981: 192). Nattrass (1981: *ibid*) points out that one of the most outstanding feature of these states was their spatial fragmentation as only one, Qwa Qwa, consisted of a single unit. The rationale of the Act was to lay the institutional mechanisms to promote development in the Bantu areas so that Bantu would not move to urban areas. Thus this Act was intended to complement the Acts previously cited that largely applied to urban areas. This Act also

went hand-in-glove with the Blacks (Abolition of Passes and Co-ordination of Documents) Act No 67 of 1952 which required all Black males over the age of 18 to carry pass books at all times.

The movement of Blacks from the homelands to white South Africa, it was argued, could only be addressed if there was meaningful socio-economic development in their areas. This was noted by the Economics and Wages Commission Report of 1925 and the Native Economic Commission Report of 1932. As noted earlier, Houghton (1976) observes that the economic situation of the natives that were demarcated into self-governing homelands in 1950 was characterized by serious socio-economic deprivation and unsustainable subsistence agriculture. It is in this context that the Tomlinson Commission appointed by the government to investigate the state of Africans argued that Africans were severely disabled in White South Africa and that the solution was either total segregation or total integration, of which the former was preferred by the apartheid government. The total segregation route saw the following policies being implemented to improve the socio-economic status of homelands and remove the need for Africans to migrate to white cities: the settlement betterment programme and the establishment of border industries.

The settlement betterment programme aimed to improve land use and agricultural production in the rural areas in homelands. The concept underlying the programme was that when a location had been proclaimed a „betterment" area, scattered homesteads would be concentrated and land suitable for arable agriculture would then be set aside for arable purposes; the remainder would be fenced for pasture, with rotational grazing in mind (Houghton, 1976: 78). Traditional dispersed homesteads built up over years were destroyed and people were required to build their homes closer to one another in a neatly laid, grid formation without services or facilities (Platzky, 1996). The effects on agriculture, according to Platzky (*ibid)* were unintended as women did not have the extra energy to move to and from the fields which led to plummeting subsistence agriculture.

The establishment of border industries stemmed from the need to create employment opportunities in the homelands so as to curb the influx of Blacks into urban areas. The border industry concept stems from the apartheid"s government"s refusal to accept the Tomlinson Commission"s recommendations to deal with the problems facing the homelands by encouraging Black commercial agriculture and the promotion of manufacturing industry within the homelands, a rejection that was expressed in the White Paper of 1956 (Platzky, 1995). Platzky (*ibid*) notes that instead of industrializing the homelands, the government adopted a „border industry" policy. A border had been defined by the Tomlinson Commission as:

> one where development takes place in a European area situated so closely to Bantu areas, that families of Bantu employees engaged in that development, can be established in Bantu areas in such a way that the employees can a full family life (Tomlinson Commission: 141 cited in Platzky, 1996: 79).

The border industrial policy was followed by a number of incentives to encourage industries to locate in border areas. Platzky (1996) notes that in an attempt to increase the rate of industrial decentralization, the government introduced three controls that inhibited the expansion of manufacturing in the metropolitan areas (the PVW, Cape Town, and Port Elizabeth-Utenhage; the Durban-Pinetown area was spared because of its proximity to homelands). Section 2 of the of the Physical Planning and Utilization of Resources Act of 1967 limited land zoning for industrial use in the metropolitan areas; section 3 of the same Act prohibited the employment of Bantu in the existing industries without the Minister of Planning‟s approval; and Africans were channeled to low paying jobs in mining and agriculture.

However, the apartheid scheme of differentiating factors of production along racial lines did not unfold harmoniously; the system was writ large with internal contradictions. Furthermore, external forces such as the global macro-economic climate from the early 1970s were not at all friendly to the apartheid scheme. Although government revised the border industry policy by adding cash grants and tax breaks for industries wishing to locate in border areas and even going as far as allowing White capital to invest in border areas the rate of economic development in the homelands and border areas still left much to be desired. Daniel (1981) and Wellings and Black (1986) cited in MacCarthy (2001) note that the expensive programmes in the rural areas and industrial job creation in homelands designed to make them economically and politically viable failed to keep pace with their rate of impoverishment. This can be discerned from Tables 5.12 and 5.13 below, adopted from Nattrass (1981: 196). Table 5.12 shows rapid population growth in the homelands between 1936 and 1978. Nattrass (1981: 195) notes that high natural increase of population mean high dependency burdens. On the other hand, Table 5.13 shows that while homelands contained one-third of South Africa‟s population, they only contributed 3% of South Africa‟s economic output.

Table 5. 12: The Populations of Black States, 1936-78 (cited in Nattrass, 1981: 196)

Black State	Population on Census Date (in 000's)					
	1936	1946	1951	1960	1970	1978
Transkei	1 135	1 231	1 241	1 372	1727	2 484
Ciskei	245	264	265	319	526	554
KwaZulu	907	958	964	1 203	2 106	2 898
Bophuthatswana	210	243	257	396	877	1 273
Lebowa					1 086	1471
Venda	471	557	583	832	269	358
Gazankulu					269	354
KaNgwane	N/A	N/A	N/A	N/A	N/A	N/A
QwaQwa	8	8	6	11	26	95
Total	2 976	3 261	3 316	4 133	7 003	9 707

Source: BENSO Estimates given in Black Development, BENSO, (1976) and Statistical Survey of Black Development, BENSO, (1979).

Table 5. 13: The Relative Position of South Africa's Black States in 1975 (cited in Nattrass, 1981: 197)

State	Population (000)	Share of RSA. Population (%)	Gross Domestic Product (R1 000)	Share of R.S.A. Gross Domestic Product (%)	Net National Income (R1 000)	Share of R.S.A. Net of National Income (%)
Transkei	2 306	9,6	210 356	,85	560 436	2,62
Ciskei	530	2,0	54 562	,22	120 900	,56
KwaZulu	2 663	10,5	180 977	,73	790 900	3,69
Bophuthatswana	1 158	4,6	188 288	,87	340 410	1,59
Lebowa	1 360	5,3	106 048	,43	339 500	1,58
Venda	331	1,3	21 138	,09	86 400	,40
Gazankulu	327	1,3	20 897	,08	107 600	,50
KaNgwane	202	,8	10,368	,04	34,500	,16
QwaQwa	88	,4	5 959	,02	16 500	,08
The Group as a Whole		35.8		3.33		11.8

Source: South Africa Statistics 1978: Report 09.17.03 National Accounts of the Bantu Homelands 1971-1975. National Accounts of the Republic of Transkei 1971-1975. Department of Statistics and 1978 Survey of Race Relations.

This occurred despite annual subsidies of hundreds of millions of Rand and millions of pass-law arrests (Giliomee and Schlemmer, 1985, cited in McCarthy, 2001: 28). A manifestation of the crisis was the growth of informal settlements on the borders of homelands within commuting range of cities, such as Winterveld in Bophuthatswana north of Pretoria, and Inanda in KwaZulu northwest of Durban (*ibid*; Mabin, 2001).

The problems facing the apartheid system were exacerbated by the declining international competitiveness of South African manufacturing industry and the slowing down of the economy brought about by the global financial crisis and the restructuring of world capitalism (McCarthy, 2001; Platzky, 1996). This is shown in Table 5.14, taken from Platzky (1996: 90), below which shows the decline in the world economy in the 1970s and ‚80s brought about the increase in oil prices and the restructuring of the world economy because of the decline of the manufacturing sector and the emergence of the techno-economic paradigm. It is in this context that the apartheid ethos of social, political, economic and spatial segregation along racial lines spectacularly collapsed in South Africa.

Table 5. 14: Gross domestic product and manufacturing output and employment growth: 1946-91

	Manufacturing output (%)	Employment (%)	Total GDP (%)
1946-50	9.1	6.6	4.7
1950-55	7.5	3	4.8
1955-60	4.5	0.9	4
1960-65	9.9	6.8	6
1965-70	7.4	3.2	5.4
1970-75	6	4.1	4
1975-80	4.1	1.5	3.4
1980-85	-1.2	-1	1.1
1985-91	0.7	-1.4	1

Source: Black 1991: 157, Hirsch and Lewis,1993: 4, cited in Platzky (1996)

5.4.1.1 Settlement Policies during the late apartheid era

One of the main solutions adopted by the apartheid government in solving the problems noted earlier was a regionalist approach. Platzky (1996) notes, that the slower economic growth of the 1970s led some elements of the state to examine the relationship between economic activity and spatial form in an integrated way. Thus in 1975 the National Physical Development Plan (NPDP) was introduced, designating 42 planning regions that were differentiated on the basis of core nodes and the distribution of population, infrastructure, natural resources and types of economic activity (*ibid*). The underlying philosophy was the establishment of growth points in and outside Bantustans based on „identification of points at which growth would in all probability take place, on basis of deployment of existing and planned development axes and national hierarchy of towns" (NRDP, 1991: 9, cited in Platzky, 1991: 93).

Robinson (2003) also points to the emergence of a rural service centre strategy in South African regional planning in the late 1970s. The concept was based on the improvement of the level of services in small or intermediate towns whose surrounding rural populations suffered from impoverishment. In some instances the strategy also entailed the creation of new nodes for rural communities in remote locations. Robinson (*ibid*) notes that the focus was on the location of the centres, and their local and regional linkages, the functions to be established at the centres and their physical form. As such it can be discerned that in as much as settlements in South Africa were shaped with regards to the natural resources at their disposal, they also became differentiated by apartheid policies that established service centres in remote rural areas so as to curb the influx of poor Black people to the cities. However, these efforts were not enough to address the problem of spatial inequalities in the South African space economy. Platzky (1995: 96) argues that the NPDP was inadequate in addressing the problems of metro-areas which were the result of a restrictive urbanization policy, which had served mining and agricultural capital, and a short sighted approach to industrialization which required skilled workers and growing effective demand.

It is in this context that some serious reforms to apartheid were introduced in the mide-1980s. The main pieces of legislation introduced to reform apartheid were the Identification Act of 1986; the Abolition of Influx Control Act 68 of 1986; Regional Services Council Act of 1985 and the 1985 Development of Housing Act. Their main effect was the removal of all controls on the movement of Black and other races within urban areas through the scrapping of the pass systems for Africans; they also made provision for services in fiscally deficient Black local authorities (McCarthy, 2001).

The other important piece of legislation included the Abolition of Racially Based Land Measures Act No 208 of 1991which repealed the Black Land Acts of 1913 and 1936, the Group Areas Act of 1991 and the Upgrading of Land Tenure Rights Act 112 of 1991. These Acts not only affirmed the government‟s commitment to home ownership but also introduced important concessions regarding the welfare of those unable to afford conventional shelter; the Less Formal Township Establishment Act was an attempt to speed up land development in the face of migration to cities (Mabin and Smit, 2001).

The period between 1990 and 1994 focused on negotiations between the National Party-led apartheid government and various liberation movements led by the African National Congress (ANC). A key feature of the negotiations was the redefining of the apartheid boundaries that differentiated between Whites and other races, especially the Black majority, as they had proven to be unworkable. This was illustrated by the continued influx of Blacks to „White areas‟ in the face of restrictive measures due to their dire living conditions. Considering the diversity of African ethnic tribes that were further fragmented by the homeland system and racial polarization that was brought about by apartheid policies, negotiations on the redrawing of apartheid boundaries were a thorny issue. Apartheid homeland boundaries were fragmented and had largely been drawn along ethnic lines, as all the homelands were made up of homogeneous ethnic groups.

In order to deal with the multi-layered and diverse nature of the South African social, political, economic and physical landscape, a federalist approach to redrawing post-apartheid regional boundaries was adopted by the negotiating parties. Federalism recognizes the importance of territorial differentiation within a nation based on the promotion of local economic and social interests through establishing a balance between the powers of central government and sub-national regions (Christopher, 1995).

According to Christopher (1995) the idea was ushered in as a compromise between the National Party‟s instance on „power sharing‟ and the desire of the ANC for a strong unitary state to facilitate

national reconstruction and the redistribution of resources. In recognition of the diversity and heterogeneity of the groups and interests negotiating for a democratic South Africa, regional boundaries were demarcated based on four main criteria: economic aspects, institutional administrative capacity, socio-cultural issues, and geographical coherence (*ibid*). Based on this, nine regions which later became the nine provinces of South Africa were drawn, namely, Western Cape; Northern Cape; Eastern Cape; Orange Free State; KwaZulu-Natal; Eastern Transvaal; Northern Transvaal; North West and Pretoria-Witwatersrand-Vereeniging (PWV). These are shown in Table 5.15 below, adopted from Christopher (1995). Christopher (1995) notes, that the designated provinces have a close relationship not only with economic development, but also the ethno-linguistic map of the country.

Table 5. 15: New South African Provinces

Province	Population (000) 1991	Gross Domestic Product (R1 000)	Percentage Urban	Illiteracy rate (% age)
Western Cape	3,393	4,906	86	9
Northern Cape	727	3,353	66	23
Eastern Cape	6,137	1,553	35	29
Orange Free State	2,723	2,861	49	20
KwaZulu-Natal	7,590	2,421	39	28
Eastern Transvaal	2,130	4,974	35	32
Northern Transvaal	4,525	914	9	35
North West	2,397	3,619	29	36
PWV	9,267	5,624	82	13
South Africa	38, 888	3,332	50	21

Source: South Africa 1993a *cited in* Christopher (1995: 8)

5.4.2 Population

During the apartheid era, policies aimed at enhancing the economic position of Whites in South Africa through social, political and economic differentiation along racial lines had a significant impact on the demographic characteristics of the different races in South Africa. These policies also heavily impacted on the patterns of urbanization and urban growth.

Firstly, the introduction of the Bantu Self Governing Act, which paved the way for the creation of homelands (African Independent States), that largely duplicated the native reserves legally created by the Native Land Act of 1913, deepened overcrowding in the areas allocated to Black South Africans. Africans who resided outside the demarcated homeland boundaries were forcibly relocated to the homelands. Fay (2011: 9) highlights that restrictions on land ownership and waves of evictions under segregationist and apartheid regimes reshaped South Africa‟s rural landscape, creating labour reserves with artificially high population densities and rates of growth which had no relation either to natural population increase or voluntary migration.

The spatial distribution of population was clearly along racial lines, as the Black population was largely domiciled in ethnically homogeneous homelands and the White population mostly in cities, with some also in the commercial farming areas. As such, spatially the population of South Africa was characterized by sparsely populated commercial farming areas, with pockets of densely populated areas where Black farm laborers stayed; densely populated African homeland areas; and cites where the bulk of the White population resided, also spatially segregated along racial lines.

Gelderblom and Kok, 1994 (cited in Singh, 2006) highlight that the shortage of land for Black farmers due to apartheid legislation forced them into a capital-based rural economy. Singh also emphasizes that another outcome of the appropriation of land from Africans was over crowded rural areas, with a black population living in abject poverty.

Population distribution in cities was a product of the Group Areas Act, whose aim was the promotion of White labour interests at the expense of other races, chiefly Blacks. The White race was allocated residence in neighborhoods with well supported infrastructure close to socio-economic opportunities, while Blacks were peripherally located in over-crowded townships. Thus in cities the population distribution was characterized by relatively low densities in White neighborhoods and extremely dense African residential areas.

Another key social characteristic in South Africa during the apartheid era was differential education along racial lines. The passage of the Bantu Education Act was a labour allocation mechanism for White capital, particularly agriculture, and was meant to equip Africans with rudimentary education so as to be able take instructions as farm laborers; it created a situation where Blacks received inferior education relative to other races. This revealed in Table 5.16 below, which shows that between 1976 and 1987 Blacks had the least number of degrees.

Table 5. 16: Total number of degrees 1976 – 1987

	Whites	Blacks	Coloureds	Asians
Physical sciences	50 237	3 299	1 403	3 030
Human sciences	60 111	10 003	5 202	5 599
Commerce	31 163	1 780	648	1 862
Other	11 079	1 265	186	646
Total	152 590	16 347	7 439	11 137

Source: Engelbrecht (1990)

Also related to the inferior education of Blacks was also their economic position relative to the other races. This shown in Table 5.12, adopted from Leibbrandt *et al* (2001) and Leibbrandt *et al* (2010) and provides estimates of annual *per capita* personal income by race group in 2000 Rands relative to White levels, 1917-2005

Another significant population trend witnessed during the apartheid era was declining fertility rates across all racial groups. Swartz (2000) notes that in South Africa as a whole fertility was high and stable between 1950 and 1970, dropping to an average of 4 to 5 children per woman in the period 1980 to 1995. However the fertility decline is not uniform among the races. Swartz (*ibid*) notes that for Whites it had fallen below replacement with a Total Fertility Rate (TFR) of 1.9 by 1989; Asian fertility declined from a TFR of about 6 in the 1950s to 2.7 in the late 1980s; Coloured TFR declined from 6.5 in the late 1960s to about 3 in the late 1980s and Blacks‟ TFR declined from 6.8 to 3.9 between the mid-1950s and the early 1990s.

The decline in fertility rates in South Africa is unique amongst sub-Saharan African countries. This is so because if poverty is highly prevalent, fertility rates normally remain high, as poverty implies exclusion from developmental activities such as education and participation in labour markets, which exposes people to an early and prolonged reproductive life. For Blacks in South Africa abject poverty during the apartheid era was the order of the day, but nevertheless, fertility declined. The declining fertility rate for Whites is understandable as they enjoyed social welfare and other supportive policies that empowered them socially and economically. Swartz (2000) offers a number of explanations for the declining fertility rates among Blacks in South Africa during the apartheid era.

The first explanation is the launch in 1974, by the apartheid government a well-funded National Family Planning Programme whose focus was providing substantial funding for private and public family planning services and free contraceptives. The aim was to lower the increase in the Black population because of fears that it would threaten White‟s socio-economic privileges. On the other hand, the government tried to increase the White population through encouraging immigration. However Swartz (2000) highlights that this alone cannot be responsible for the lowering of fertility rates among Africans, as they resisted the population control imposed on them. Swartz points to other factors such as the circular migration system which destroyed the nuclear household structure of Africans, paving the way for female-headed households. This household structure forced women to adopt family planning as a survival strategy in the absence of men, who traditionally played a lead role in fending for the family.

5.4.2.1 Urbanization and urban growth trends

Urbanization and urban growth trends during this period should also be understood in the context of apartheid administrative differentiation of rural and urban areas. This was embedded in the Group

Areas and Bantu Self Governing Acts. Although these Acts were meant to differentiate factors of production along racial lines, they had significant implications for the definition of rural and urban areas in SA. McCarthy (1992: 27) notes that these Acts implied two major politico-geographic concepts namely a „group areas" concept applicable to trading, residence and related local political rights in „White" South Africa, and a homelands concept applicable to separate political and economic „development" of Blacks outside White South Africa.

Geyer (2003) discusses urban growth and urbanization trends from 1950, just after the National Party came to power, up to 1994, when the apartheid system formally collapsed. During this period urban growth and urbanization were greatly influenced by apartheid policies that differentiated the space economy along racial lines. Up until 1970, the urban system in South Africa was firmly in the second stage of the urbanization model, as the proportion of the population living in rural areas continued to decline while the small, intermediate and core regions continued to gain population proportionally (Geyer, 2003: 575). On the other hand, death rates were also falling due to improvements in public health and thus natural increase was also a significant contributor to urban growth.

However, it should be noted that from the 1970s, decentralization policies together with influx control legislation (measures taken to curb Black migration to major urban areas that were considered „White territory") had significant implications for urban growth and urbanization. The consolidation of urban reserves to form continuous geographic entities (homelands accommodating Africans) had significant implications for urban growth and urbanization trends. Geyer (1989a, 1989c; cited in Geyer, 2003) notes that boundary changes during the consolidation of homelands meant that Blacks who were previously inhabitants of regional centres found themselves living in rural areas due to the administrative reclassification of their residential areas. In Figure 5.8, Geyer notes that the relative decline in the growth of small towns and satellite regional centres and the absolute decline in peripheral regional centres is merely a result of boundary changes. Laaldaparsad (2006) points to the Surplus People Project (SPP) report of 1983 which noted mass forced removal of Africans from cities, towns and farming areas in the 87% of the country designated for White ownership.

If one also considers population density as a criterion for classifying urban areas, one realizes that there was significant urbanization and urban growth at the fringe of the homelands in areas closer to the border industries in white areas. This scenario is aptly summed up Laldaparsad (2006: 5), who notes that:

> Murray (1987) states that "what happened, in summary, is massive „urbanization" in the homelands in terms of the sheer density of population now concentrated there. … 56% of the population of the Bantustans are now „urbanized". … Some concentration has taken place in „proclaimed" (officially planned) towns in the Bantustans, whose population was 33 5000 in 1960, 595 000 in 1970 and 1.5 million by 1981. But most of the concentration has taken place in huge rural slums which are „urban" in respect of their population densities but „rural" in respect of the absence of proper infrastructure or services."

It should be noted, however, there are other studies of urbanization and urban growth during this period are based on the functional criteria of classifying urban areas. Laldarpsard (2006), points to a study by Davies (1967) which notes the existence of a hierarchy of urban centres in South Africa based on a series of 12 functions which indicated degree of urban importance. Places without a post office were excluded from the list of urban areas; these included isolated collieries and small resorts and mining towns. The data were obtained from government and provincial departments, commercial and financial institutions, the telephone directory and field visits. Laldarpsard (*ibid*) notes that Davies (1967) identified a hierarchy of urban settlements made up of eight urban centres:

Order 1: Primate Metropolitan Area (The Witwatersrand and conurbation)

Order 2: The Metropolitan Areas (Cape Town and Durban)

Order 3: Metropolitan Areas (Pretoria, Bloemfontein, Pietermaritzburg, East London, Kimberley)

Order 4: Major Country Towns

Order 5: Country Towns

Order 6: Minor Country Towns

Order 7: Local Service Centres

Order 8: Low Order Service Centres

Overall, however, what can be noted from the 1970s up until the 1980s is that the proportional decline of rural areas and the proportional increase in the metropolitan population stopped, whilst small cities proportionally gained population, an indication that the South African urban system was approaching the polarization reversal stage of urbanization and urban growth (Geyer, 2003: 575). It should be noted the two main racial groups, Whites and Blacks made a differential contribution to this trend.

In terms of urban growth within individual South African cities, urban centres, especially the metropolitan areas, could be said to have been in the second stage of the model of urban growth within individual centres developed by Klaasen *et al* (1981) and van den Berg *et al* (1982), the suburbanization stage. This is in view of the fact that: „From an urban perspective these laws

(apartheid laws) resulted in a gross inadequacy of urban planning and a diversion of urban settlement into sprawling peri-urban areas, located in Bantustans, commuting distance from cities" (Giliomee and Schlemmer, 1985 cited in Singh, 2006). Likewise mass modern housing was provided for Africans in peripherally located townships.

Although the modernist planning principles employed paved the way for the suburbanization of Blacks mainly through the location of mass subsidized housing at the periphery of cities, there was also significant suburbanization within the White areas from the 1960s until the late apartheid era in the 1980s. This was mainly due to residential mobility aided by car ownership. This trend is extensively described by Mabin (2005) in his paper „Suburbanization, segregation, and government of territorial transformation".

Mabin notes that until the 1960s most Whites in South African cities lived in rental, high rise apartments that were close to the inner city areas. However, this started shifting from the 1970s onwards due to social welfare mechanisms offered by the government to help the white labor force acquire owner occupied suburban, free standing housing units. Equally important to note are class and ethnic differentials among the White race in terms of access to and location of suburban housing. This was manifested by the segregation of neighborhoods among Afrikaner Whites, British Whites and Jewish people. Class also played a significant role in the way suburbanization within the White areas unfolded, as relatively poor Whites remained in the tenements and neighborhoods within the inner city area because they could not afford suburban homes.

As the reforms to the apartheid system unfolded from the beginning of the 1980s, urban growth and urbanization trends also shifted drastically. The removal of restrictions on the movement of the population led to an increased influx of Blacks to urban areas of all sizes after 1985 and by 1991 the share of Blacks had increased relative to all other groups in all urban categories (Geyer, 2003: 575). Geyer highlights that at the beginning of this process, large agglomerations absorbed most of the migrants to cities; subsequently, urban areas in all categories attracted migrants. During the late apartheid era, the South African urban system therefore re-entered the first phase of the urban growth and urbanization phases, where the main, core urban areas dominated the urban system at the expensive of small and intermediate urban centres.

Urban growth within individual urban areas can best be captured by the term „pseudo suburbia" coined by Mabin (2005). The term connotes the development of low income, formal and informal settlements at the periphery of urban areas, especially the main metropolitan areas, far from socio-

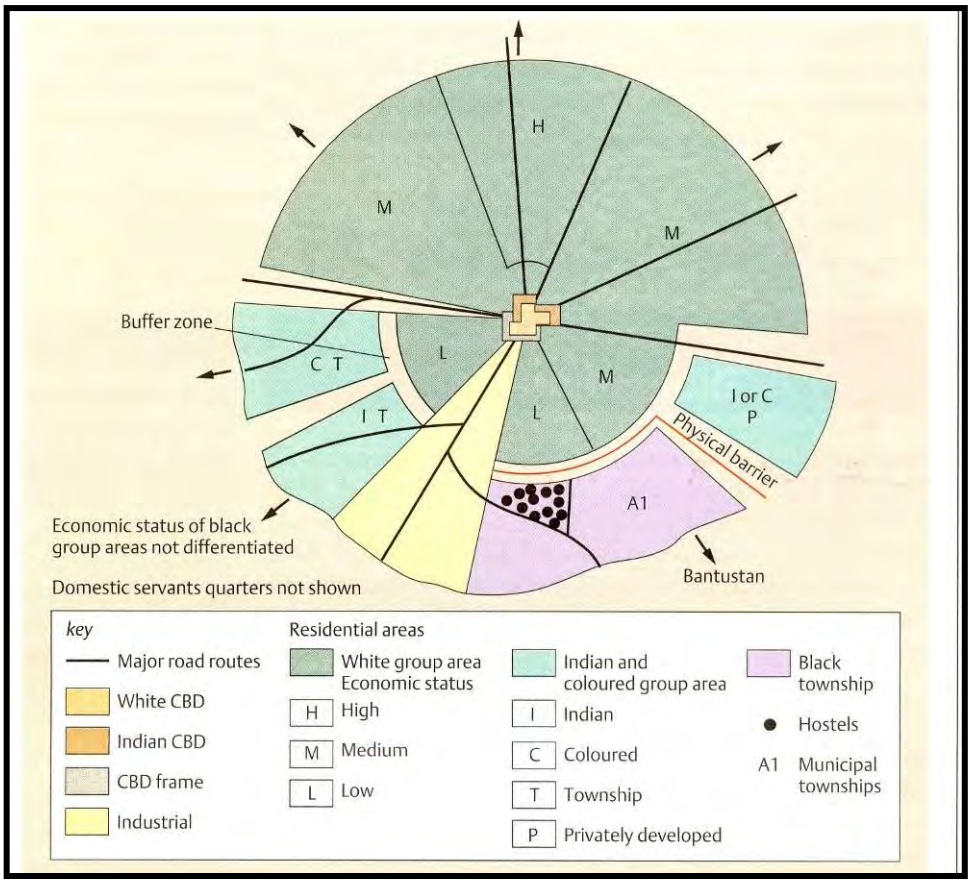
economic opportunities. For the White community which was ageing and living in inner city areas during the late apartheid era, the dominant form of movement was movement to town houses in suburban locations for fear of crime. Town houses are similar to row housing, with perimeter walls and security, and can be said to be a South African version of gated communities (Mabin, 2005). The development of townhouses was followed by the flight of the commercial and retail sectors to suburban locations to serve these communities. As such the traditional CBD was left mostly for Black people who use public transport, while suburban shopping was mostly aimed at the middle and upper classes using private cars.

During the apartheid era a significant source of urbanization and urban growth was rural-urban migration for economic reasons because of the abject poverty in the homelands. Economically active men left the rural areas for urban centres to take up low paying, exploitative jobs (Ndegwa *et al*, 2004 cited in Singh, 2006). The form of migration took a circular form as young Black men were encouraged to return home a couple of times a year to visit their families and to send remittances (Singh, 2006: 7). Ndegwa (2004, cited in Singh, 2006) notes that caused problems in South Africa, because it is not possible to predict urban growth and urbanization through the demographic transition models, which fail to predict lags in fertility and imply high rural population growth amidst declining labour absorption rates within the existing sectors of the economy.

5.4.3 The paradigm underpinning apartheid spatial patterns

The spatial structure of South African cities during the apartheid era is shown in Figure 5.10, adopted from Nagle (2000). The structure reflects modernist planning principles that were laden with racial elaborations, as there is clear separation of land use along racial lines. The White CBD is surrounded by White residential areas, with lower quality residential areas closer to industrial areas and higher quality areas further away. Coloureds, Indians and Blacks were separated by buffer zones.

Figure 5. 10: Spatial structure of the apartheid city



Source: Nagle (2002: 295)

The spatial structure of South African cities during the peak apartheid era can largely be explained by the urban managerialist paradigm. The planning of urban spaces was influenced by planners working within the modernist tradition. Calderwood‟s (1953) work influenced housing provision in apartheid South Africa based on „„… largely a technical approach focused on housing standards and neighborhood planning, legitimized by empirical study and the citation of international research‟‟ (Haarhoff, 2010: 6). Maylam (1995: 30) also points to the fact that life in segregated African accommodation, be it employer controlled, class differentiated or ethnically differentiated was further regulated through the promulgation of Bantu Administration Boards in the 1970s.

However, during the late apartheid era the same could not hold, as the state started losing its grip on policy formulation and implementation. McCarthy (1992) notes that as apartheid proved too costly, the state moved privatized state assets. Examples include selling Black housing to individuals and the privatization of bus companies. The post-structural paradigm in this context is therefore useful in explaining the urban structure that began to emerge in the late apartheid era, as various stakeholders

became involved in determining policy implementation. Furthermore, the acknowledgement of informal settlements during the late apartheid era through the passing of the Less Formal Township Establishment Act (LFTEA) in 1991 shows that individual agency also became integral to determining urban form.

5.5 Conclusion

This chapter has traced the historical evolution of settlement patterns and trends in South Africa from colonial times up until the final demise of apartheid in 1994. It has shown that settlement patterns and trends were gradually socially engineered by the minority White colonial settler populace to disenfranchise the majority of Black South Africans. The manipulation of settlement trajectories started in the early colonial period and reached its zenith with the introduction of formal apartheid in 1948. Apartheid involved a raft of policies and legislation that sought to dehumanize and subjugate mainly Black South Africans in all spheres of life in order to guarantee the privileges of the White minority. However, due to internal contradictions and international protests against apartheid, the system collapsed, giving way to democratic rule in 1994. The chapter enables crucial comparisons and contrasts between settlement patterns in pre- and democratic South Africa to be analyzed in the following chapter.

6 Chapter six: Post-apartheid South Africa Settlement Patterns and Trends

6.1 Introduction

When the democratic government took power in 1994, the new government led by the ANC embarked on the Reconstruction and Development Programme (RDP) to address the negative social, political and economic legacy of the apartheid government. At the core of RDP is poverty alleviation through addressing socio-economic and services backlogs in SA. In the economic arena, in line with goals of the RDP, the main measure adopted was the neo-liberal macro-economic policy, Growth Employment and Redistribution (GEAR).

In line with neo-liberal economic principles, GEAR aimed to improve South Africa‟s competitiveness internationally by attracting foreign direct investment and promoting exports to boost the country‟s GDP. The policy also sought to stabilize inflation in the country through cuts in government spending on social services, *via* the privatization of state enterprises and the establishment of Public-Private Partnerships (PPPs) to deliver public services. The programme set a target of a 6% growth rate per annum in the economy and the generation of 400,000 new formal jobs per annum by the year 2000 (RSA, 1996: 1-5, cited in Rogerson, 1998). However, as illustrated by persistently high unemployment rates in South Africa, these targets were not met.

6.2 Settlement Function and Differentiation

In line with the GEAR policy of investment creation and export promotion Spatial Development Initiatives (SDIs) were introduced in South Africa. The SDIs took the form of targeted investment areas with economic potential. Sectors of the economy targeted by SDIs include manufacturing, agriculture, and tourism (Rogerson, 1998). The rationale behind SDIs lies in the removal of bottlenecks to development in depressed regions which might arise because of lack of infrastructure such as ports, rail, roads or human resources depending on the context (Jourdan, 1998). The initiative is also centred on an anchor project which requires huge capital investment in an area focusing on one big project which might be a port, road or industrial plant which in turn is expected to attract more investment. Furthermore, the implementation mode of SDI initiatives is centred on PPPs as well as joint ventures between major investors and Small to Medium Enterprises (SMEs). Main example of SDIs include the Maputo Corridor, the Fish River, the Wild Coast and the West Coast whose focus is a sectoral mix, industrial, agro-tourism and industrial development zones respectively. The SDI programme is complemented by the Manufacturing Development Programme (MDP) (Rogerson, 1998). This programme is based on a Tax Holiday Scheme which offers investors

who meet certain criteria a total of six years‟ tax holiday as well as a foreign cash grant (Jordan, 1998). The spatial component of the MDP is congruent with the SDI initiatives.

In 2003, the government also launched the National Spatial Development Perspective (NSDP). The NSDP is an effort by the government to optimize available funding by focusing on economic infrastructural development in identified locations that are considered the engine of the South African economy, while on the other hand providing services in areas considered to have low economic potential (Roux, 2009: i). Roux notes that the perspective recommends mechanisms to align investment and development programmes within localities through:

- a set of principles and mechanisms for guiding infrastructure investment and development planning decisions;
- a description of the spatial manifestations of the main social, economic and environmental trends which should form the basis for a shared understanding of the national space economy; and
- an interpretation of the spatial realities and the implications for government intervention.

Roux (2009: 3).

Another initiative that differentiated settlements, particularly urban areas took the form of regeneration initiatives. The consequences of late apartheid era legislation such as the Abolition of Influx Control Act 68 of 1986 which removed apartheid restrictions on movement was a massive urban bound movement mostly by poor Blacks. The RSA Urban Development Strategy (1996) notes that with rapid urbanization in South Africa during the late apartheid era the built-in spatial and functional inefficiencies increased the costs of building, operating, and maintaining the apartheid city‟s infrastructural systems and providing services to its residents. Inner city areas became characterized by neglected residential neighborhoods buckling under the strain of the influx of new settlers and immigrants and multi-story industrial space was under-utilized or stood empty (Urban Development Strategy, 1995). Associated with this trend, many white-collar office and retail jobs - the economic locomotive of a core city - have migrated to suburban business centres (*ibid*). Thus, the CBDs of major cities in South Africa became synonymous with zones of urban decay, insecurity and danger.

With the degeneration of South Africa‟s major cities proving to be a major and persistent problem, the National Treasury of South Africa launched an urban renewal tax incentive in 2004 to encourage the revitalization and regeneration of the city centres of South Africa's 16 major cities. In this respect

Urban Development Zones (UDZ) were demarcated in South Africa‟s major cities to deal with the challenge of urban deacay.

It should also be noted that the intensification of global linkages in the world economy at the end of the 20th century brought competitiveness to the centre of national government policy and development priorities. Most governments engage in various projects at sub-national scale that focus on employment creation through the attraction of foreign investment to enhance sustainable socio-economic development. Mixed-use strategies have been devised to balance the economic, social and ecological objectives of these projects. Hosting mega sporting events such as the Soccer World Cup and the Olympic Games has often been used as a catalyst for the implementation of strategic projects. The same applies to South Africa.

The South African government‟s bid for and successful hosting of the 2010 Soccer World Final was aimed at providing a positive legacy of economic growth and the spatial integration of economic and social opportunities in cities. This saw the implementation of strategic urban design and architectural projects in the renovation and construction of various stadiums at different sports precincts in major regional cities as catalysts for this goal. Ten stadiums were used for the staging of the final Soccer World Cup games. Five of these were renovated, namely, Free State Stadium in the city of Bloemfontein in Free State, the Royal Bafokeng stadium in Rustenburg in North West, Soccer City, and Ellis Park and Loftus Versfeld Stadiums in the cities of Johannesburg and Pretoria respectively in Gauteng. The four newly constructed stadiums for the event are the Green Point Stadium in Cape Town in the Western Cape, Peter Mokaba Stadium in the city of Polokwane in Limpopo, Nelson Mandela Stadium in the Eastern Cape in the city of Port Elizabeth, and the Moses Mabhida Stadium in KwaZulu-Natal in the city of Durban.

There have been also been initiatives to channel investments to small and intermediate towns within the framework of Integrated Development Planning (IDP). Robinson (2003) explains the evolution and implementation of the concept of rural service centres in line with other African countries such as Zimbabwe to address poverty at the grass roots level in rural areas. The service centre concept is underpinned by the central place theory where a settlement exists for the provision of services such as health, education, markets and retail goods for its population and that of its surroundings. In South Africa according to Robinson (*ibid*: 361), when the service centre strategy was first introduced in 1979 in the Transkei region and later in the regional development plans of Maputaland in 1989 and the province of KwaZulu-Natal in 1986, it was based on the location of the centres, their local and

regional linkages, the functions of the centres and their physical form. In the context of IDP after 1994, Robison notes that the concept was re-conceptualized to entail different functions typical of settlements at different levels of the hierarchy of settlements for provinces and regions. Furthermore, he notes the concept incorporated the „rural service systems" dimension.

Local economic development has also been an integral policy of the post-apartheid South African government. LED initiatives were given impetus in 2000, after the restructuring of local government; local authorities were given a proactive role in eradicating poverty by actively engaging the public sector in tackling poverty through public and private partnerships. The definition of LED is captured by Valder (1999, cited in Rogerson, 2003: 53-54) who notes that:

> Overall, the four leading foci of urban LED interventions are seen as concerning the promotion of competitiveness of localities, particularly through the attraction of inward investment, the enhancement of growth through implementing property-led city improvements, supporting „job creation from the inside" in terms of business retention or assisting small enterprise development (SMME), and finally, supporting a range of community development initiatives, including community enterprises or cooperatives (Valder, 1999).

As such Rogerson (2003) identifies two strands of LED initiatives internationally, namely, the *market-led approach to business development* whose focus is enhancing local economies" ability to adjust to the forces of globalization, especially competitiveness; and *market critical approaches or pro-poor* whose emphasis is a bottom-up strategy to enhance local self reliance, empowerment and local cooperation. In South Africa, SDIs and the associated MDPs, industrial cluster development programmes and strategic projects such as the International Conference Centres (ICCs) built in the main urban centres, the construction of stadiums associated with the hosting of mega events as the 2010 Soccer World Cup and investment in intermodal transportation systems such as the Bus Rapid Transit System and the Gautrain fall in the former category. The latter category entails initiatives whose main focus „is to facilitate household diversification of economic activity as a way to improve livelihood and reduce poverty and vulnerability" (Helmsing, 2001a, p.8 *cited* in Rogerson, 2003: 57). Some of the initiatives implemented in this regard include the promotion of urban agriculture as in the case of Midrand, where Rogerson (2003) notes that as part of eco-city initiatives, groups of cultivators using organic farming methods are receiving support. Other initiatives include youth empowerment initiatives as is also the case in Midrand. According to Rogerson (2009), as part of other LED initiatives in the area the Youth Development Theatre Project grew as a result of unemployed and out-of-school youth from the Ivory Park informal settlement and its surroundings

raising awareness on issues such as crime and HIV/AIDS. These Midrand initiatives have led to the upgrading of infrastructure, but less has been achieved in terms of job creation.

The recognition and promotion of the informal economy has also been a key pillar of LED in post-apartheid South Africa. A case in point is the Warwick Triangle in Durban where informal traders, mostly women, are concentrated in the city. According to Rogerson (2009: 524) the objectives of the Urban Renewal Programme for the area include, among others, enhancing economic opportunities for the marginalized and poorer sections of the community, upgrading the quality of the area and the local physical environment, integrating the area more closely into the fabric of the city, and expanding the range of services and facilities for residents, traders, businesses, commuters and public transport operators in the area. However, the programme has been tainted by an inadequate public consultation process and by the creation of jobs that are mostly temporary (*ibid*). It should also be emphasized that the implementation of LED projects has mostly been via PPPs, as is the case in Midrand where the local authority devolved the oversight and implementation of the LED to MidDev, a Section 21 Company formed specifically for LED initiatives in the area that works in partnership with government, NGOs, civil society and the private sector.

Other aspects of South Africa‟s regional policy since 1994 include a system of inter-provincial fiscal transfers, and attempts to put a national system of development and development strategies prepared by the provincial governments in place (Harrison, 1998). The regional dimension of fiscal policy is spelt out in the national Constitution of the RSA, 1996, Chapter 13 which states that „An Act of Parliament must provide for equitable division of revenue raised nationally among the national, provincial and local spheres of government; the determination of each province‟s equitable share; and any other allocations to provinces, local government, municipalities….‟

Harrison (1998) notes that, post-1994 an attempt was made to put a system of comprehensive development planning in place at national level, following in the footsteps of countries such as Malaysia and the Philippines. However, Harrison (*ibid*) notes that this failed to attract sufficient political support in a context where government was moving away from planning in the face of the economic imperatives of the GEAR policy. The desire for comprehensive planning in South Africa after 1994 is spelt out in the Local Government Transition Act, Second Amendment of 1996. The Act requires local government to draft IDPs based on an assessment of current realities, the determination of community needs; vision formulation; a resources and skills audit; needs prioritization; integrated development frameworks; strategy formulation; implementable projects;

monitoring tools and short to medium term budgets. While IDPs are strategic plans for district and local government, they can be viewed as versions of regional planning due to their complexity since the redemarcation of local government in 2000, as they cover huge land areas and populations, and include both rural and urban areas (Todes, 2003: 1).

It should be noted that when the municipal boundaries in South Africa were redrawn in 2000 by the Municipal Demarcation Board, IDPs became entrenched in the South African planning system. Before the restructuring of municipalities in 2000, municipal structure was determined by the Local Government Transition Act of 1993. Local government restructuring in South Africa was highly imperative as the apartheid value system was most strongly apparent at the local government level where race groups were separated by law in every sphere of life, with White communities enjoying privileges at the expense of other communities (Cloete, 1991; cited in Cloete, 1994: 42). It is in this context that Local Government was restructured in South Africa.

According to Cloete (1994) the main conflicting parties during the transition to democracy reached a bilateral negotiated settlement whose dictates translated into the Local Government Transition Act No 2000 of 1993. The Act stipulated that until the next local government elections which in terms of the Interim Constitution were to be held in 1995, local government was to be governed by this Act. According to Cloete (*ibid*) the 1993 Local Government Act differentiated categories of autonomous local government, namely, metropolitan, urban and rural areas, with varying structures, powers and functions depending on the needs of the area in question.

The passage of the Municipal Demarcation Act of 1998 and the actual demarcation of municipalities in 2000 introduced a three-phased process of municipal restructuring spelt out by the Local Government Act of 1993. The first phase was the promulgation of the Local Government Transition Act in 1993; the second phase, the interim phase started with first local government elections at the end of 1994 and early 1995 and the final phase was to be governed by the final Constitution (Cloete, 1994). The final phase resulted in the passing of the Municipal Demarcation Act in 1998 and, consequently, the establishment of the Municipal Demarcation Board which has been leading local government restructuring since 2000. The Municipal Demarcation Act compels the Municipal Demarcation Board to define and redefine the borders of all municipalities in South Africa in consultation with all stakeholders. Prior to the first local government elections in 200, a total of 284 municipalities were demarcated in South Africa: six metropolitan municipalities (Johannesburg, Pretoria, East Rand, Durban, Port Elizabeth and Cape Town), 47 district municipalities, and 231

local municipalities (Municipal Demarcation Board South Africa, 2000). Criteria for the demarcation Category A which is the Metropolitan municipalities were laid by the Municipal Structures Act of 2000 which states that a metropolitan municipality can be referred to as one with the following characteristics:

- A conurbation featuring areas of high population density; and an intense movement of people, goods and services; extensive development; and multiple business districts and industrial areas.
- A center of economic activity with a complex and diverse economy.
- A single area for which integrated development planning is desirable.
- Having strong interdependent social and economic linkages between its constituent units.

Municipal Demarcation Board South Africa (2010: 1)

In terms of category C (District Municipalities), the Municipal Demarcation Board notes that it was argued before the 2000 local government elections, that the existing district councils should be left intact and merely needed to be strengthened and their areas redefined to enhance coordination with other spheres of government. In the end, the district municipalities in each province by 2000 were as follows: Eastern Cape 6, Free State 5, Gauteng 1, KwaZulu-Natal 10, Mpumalanga 3, North West 4, Northern Cape 3, Northern Province 4 and Western Cape 5. The criteria for the demarcation of category B (local municipalities) were based on settlement types, the rationalization of municipalities, manageable size and functionality (*ibid*). The process of municipal restructuring did not end with the demarcation of local municipalities, but with the delineation of wards, whose main aim is enhancing local governance. The Municipal Structures Act of 2000 notes that ward boundaries should determined with three principles in mind, namely, the equitable and fair spread of the number of voters; easy access to voting stations for people within a ward; and be based on people who have a sense of community.

The restructuring of local government in South Africa placed it at the centre of development concerns affecting various localities within the country. This is spelt out by the 1998 White Paper on Local Government which states that local government should be „developmental". Thus it has to „work with citizens and groups within the community to find sustainable ways to meet their social, economic and material needs and improve the quality of their lives" (White Paper, 1998). It is in this context that the IDP was made a constitutional mandate in 2000 as a way of assisting municipalities to meet their developmental obligations. According to the Municipal Systems Act 32 of 2000

(Sections 27, 28, 29), all municipalities in South Africa have to produce an IDP to plan future development in their areas. Once an IDP is drawn up, all developments in the Municipality should be in line with it. The Municipal Systems Act defines an IDP as a super plan for an area that provides an overall framework for development through coordinating the work of all spheres of government, namely local, district, and central, as well as all stakeholders such as the private sector, civil society and NGOs in efforts to enhance the development of an area.

IDPs are based on a holistic understanding of the socio-political, economic and environmental conditions in an area, in this case a municipality, so as to enhance the efficient, informed prioritization of issues to be addressed, the formulation of projects, tying projects to the available budget, attracting additional funding and implementing projects. Thus IDPs can be viewed as the local manifestation of the global discourse of sustainable development. Sustainable development is defined as development that balances the social, economic and environmental concerns of present generations without compromising the ability of future generations to do the same. However, the discourse acknowledges the spatial-temporal relativity of social, economic and environmental concerns and as such in 1992 the Rio Earth Summit coined „Agenda 21" which is a global plan of action for enhancing sustainable development in various localities of the globe. Chapter 7 of Agenda 21 set down guidelines for sustainable urban development, at the urging of NGOs such as the International Council on Local Environmental Initiatives, which compel local authorities in each country to engage in sufficient consultative processes when addressing developmental concerns (Davoudi and Layard, 2003). South Africa is a signatory to Agenda 21. Todes (2003) cites Coetzee (2002: 11) who argues that IDPs can be viewed as the South African planning and development response to Local Agenda 21 as the White Paper on Local Government (1998) argues that IDPs „will assist municipalities to enhance sustainable development wherein it is defined as „development that delivers basic social and economic services to all, without threatening the viability of the ecological and community systems upon which the services depend". All developments in terms of housing, land reform, local economic development and HIV/AIDS, to mention but a few of the most pressing problems affecting South Africa, have been taking place in line with IDPs since 2000.

The housing situation inherited by the new democratic South African government in 1994 was disparate and dysfunctional due to the apartheid policies of the previous era. Mackay (1999) highlights that in 1994 the housing conditions of most South Africans were unsatisfactory and hence the ANC-led government through the RDP and other policy measures sought to address poverty through addressing huge service backlogs, specifically housing and health. The Housing White Paper

was passed in 1994 and its principles, strategies and goals were translated into the Housing Act of 1997 wherein the government commits to establishing viable, socially and economically integrated communities where health, education and economic opportunities are situated in convenient locations (Department of Housing RSA, 1994). The strategy adopted by the government in addressing these housing problems were in line with neo-liberal macro-economic policies, where the government views itself as an enabler, rather than the provider. According to Kim (1997) the South African government encourages partnerships and community participation, is an enabler rather than developer, and decentralizes power; one the key objectives of the reform of the financial sector is stimulating owner occupation.

According to Rust (2006), the 1994 Housing White Paper on Housing centered on the National Housing Scheme, stabilization of the housing market and mobilization of housing finance. The National Housing Scheme entailed the provision of an incremental house to South African citizens older than 21 years earning a monthly income of $520 or less who had never owned a home before. The stabilization of housing markets was sought through encouraging banks to provide loans to the bottom end of the market and non-bank lenders of housing finance such as the National Housing Finance Corporation (NHFC) were established as a way of mobilizing housing finance.

The success of democratic South Africa‟s housing policy lies in the fact that between 1994 and 2004 the R27.6 billion invested in housing delivered 1.6 million houses, accommodating 6.5 million people; nevertheless, the housing backlog increased from 1.5 million in 1994 to 2.4 million in 2004 (Department of Local Government and Housing RSA, 2004: 8). A University of the Witwatersrand research team (2004) noted that this led to the continued existence and growth of informal settlements, which raises the question of the ability of policy to come to terms with this complex phenomenon. The team argues that informal settlements‟ continued existence in South African cities are a sign of social, economic, and political exclusion arising from apartheid policies as well as imperatives for South Africa to compete in the global economy. Furthermore, a review of government‟s housing policies after ten years revealed that the RDP housing programme was perpetuating the previous era‟s settlement patterns and trends as new, low income housing projects created mono-functional spaces, most of which were located on metro-fringes far from socio-economic opportunities (Adebayo, 2011). Dewar (2000) highlights that in order to match cost and market demand, the poor ended up in cheap, undesirable locations which are not attractive to private sector developers. Dewar further notes that factors affecting low cost housing delivery include the

shortage or non-availability of land for settlement and for commerce and industry and increases in the cost and land and building materials.

It is in this context that the Breaking New Ground Housing Policy (BNG) was introduced in 2004, with the aim of creating sustainable human settlements rather than simply the production of mass subsidized housing. According to Rust (2006: 10) the four primary objectives of the policy are sustainable human settlements, integration, housing assets and upgraded informal settlements.

However, in as much as the BNG is loud and clear in its intentions, its implementation leaves a lot to be desired. The main hindrances to its implementation include neo-liberal macro-economic policies, the extent and rate of contemporary urbanization and the restructuring of municipalities (Goebel, 2007). Neo-liberal economic policies in the form of GEAR have been widely criticized for hindering the creation of sustainable human settlements as they restricted government spending on social services such as low income housing and basic services like water and sanitation. Furthermore neo-liberal policies led to unprecedented levels of unemployment in South Africa because of massive job cuts in the public service and parastatals, as well as the destabilization of the manufacturing sector. Thus the bulk of the unemployed could not pay for their own welfare, whilst the state was also crippled in the provision of basic services due to austerity measures. The persistence and stubbornness of apartheid spatial patterns works against the good intentions of the BNG in that some apartheid infrastructure such as road networks was built in a distorted way that still influences settlement patterns and trends. The shortage of well located land also hinders spatial, racial and economic integration. Rapid urbanization in South Africa, which was estimated at 56.9% in 2000 and projected to reach 64.2% in the same year (UN Habitat, 2003; cited in Goebel, 2007) exerts enormous pressure on low cost housing provision as manifested in the informalization of undefended public spaces in cities. The government restructuring of municipalities in South Africa empowered local government to play a more proactive role in housing provision as developers or as catalysts for PPPs as a way of promoting community participation. However, Devas *et al* (2004; cited in Goebel, 2007) argue that this was a double-edged sword, as it led to clientism and a disjuncture between local, provincial and national goals. This is in view of the fact that local governments are still dependant on funding from national and provincial governments for basic services, due to poor revenue collection; this is illustrated by the continued dominance of Housing Boards at the national and provincial levels.

Another problem has been the delivery of substandard low cost housing by contractors due to budget constraints in some instances and incompetence in others. As a consequence, in 2011 the Ministry of Human Settlements set aside R58 billion to fix badly built low income housing (www.iolproperty.co.za, 2011). In the case of KwaZulu-Natal, since January the government had demolished and rebuilt only about 12% (6,200) of substandard low cost housing (*ibid*). The dawn of the economic recession further hampered the effective unfolding of the BNG policy in South African cities.

Another key focus of South Africa‟s RDP has been land reform. Government‟s commitment to land reform is articulated in the RDP policy document as well as the White Paper on Land Policy of 1997. This is in line with Chapter of the national constitution Section 25 (4) which states that, „the public interest includes the nation‟s commitment to land reform, and to reforms to bring the equitable access to all South Africa‟s natural resources‟; and that „property is not limited to land‟ (UN-HABITAT, 2008). South Africa‟s land reform policy is embedded in historical socio-cultural skewed land ownership and distribution in favor of the White minority which resulted from colonial occupation and the dispossession of Blacks of their land. The ANC-led government inherited racially skewed land holdings and racially distinct tenure regimes; most rural land (13%) was accessed through communal tenure in the former homelands whilst 67% of commercial farming land was held by 60,000 whites farmers under freehold tenure (Hendricks and Ntsebeza, 2000). The land reform programme has been influenced by two main factors, namely, local and international NGOs, which owe their influence over land issues to their resistance to apartheid forced removals and the World Bank (WB)‟s market led approach to land reform which entails creating a class of middle class, Black commercial farmers in order to promote rural development and political stability (Hall, 2004).

In order to address the main land ownership facing Blacks brought by colonization and associated apartheid policies, the land reform programme is based on three pillars, namely, land redistribution, tenure reform and land restitution. The land redistribution policy is critically analyzed by Hall (2004). According to Hall as proposed by the RDP and WB the programme was supposed to transfer 30% of agricultural land through a market led programme wherein the government assisted those wanting to buy land from those willing to sell land (the willing buyer, willing seller policy). This was aimed at poor households earning less than R1 500 per month who could apply for a grant of up to R16 000 to buy land. However, Hall notes that because of the small amount of the grants relative to the price of land on the market, households ended up pooling their grants and buying land as a group. This led to overcrowding and unsustainable land use on the farms, a phenomenon which has been

pejoratively described by the term „*rent a crow syndrome*". As a consequence, an new policy, the Land Redistribution for Agricultural Development (LRAD), was launched in 2000 with the aim of developing African commercial farmers through the provision of grants on a sliding scale from R20 000 depending on the cash beneficiaries are able to contribute.

Land restitution in South Africa seeks to restore land to those who were forcibly removed from their land after 1913 when the Native Land Act was passed. This is spearheaded by the Commission on Land Rights which reports to the Minister of Agriculture and Land Affairs. Where it is not possible to give the actual piece of land back, cash compensation or an alternative piece of land is granted. Hall (2004) notes that although restitution is widely pointed to as a success story of South Africa"s land reform policy there has been too much emphasis on cash payments, the policy is costly, it has caused conflict in rural areas due to counter claims and questions have been raised about appropriate models of agriculture for resource poor claimants. Furthermore, land restitution has been criticized for being too narrow in addressing all the forms of dispossession that occurred during apartheid in that it simply focuses on the removal of Blacks of as a consequence of White occupation. Ramutsindela (2007) argues that this neglects other subtle political forms of land dispossession that occurred in native reserves in the name of the rationalization of agriculture, namely, the settlement betterment programme introduced in 1930 and perpetuated when the apartheid government came to the helm in 1948.

The focus of tenure reform is an improvement in the clarity of and robustness of tenure rights, mostly of residents of former homelands who make up 34% of South Africa"s population (Hall, 2004). Key pieces of legislation in this regard are the Informal Land Rights Act of 1996, which seeks to protect the informal land rights of those living on communal and state-owned land against arbitrary evictions pending their investigation and the Extension of Security of Tenure Act (ESTA) of 62 of 1997 and the Land Reform (Labour Tenants Act 2 of 1996 (LTA)), both of which aim to regulate relations between owners and occupiers of farms and determine when and how occupiers may be evicted *(ibid*).

Another significant development in post-apartheid South Africa was the promulgation of a new population policy in 1998. The policy complements the RDP and GEAR policy as it aims to influence the country"s population trends in such a way that they are consistent with the achievement of sustainable human development (RSA, 1998: i). According to Roux (2009), the 1998 Population Policy acknowledges the problems created by apartheid policies by following a current population

and development paradigm which places population at the centre of development, as both the driving force and beneficiary. The Policy does this by focusing on backlogs in social resources (employment, education, health, and other services), inequities in access to resources, infrastructure and social services, urban and rural settlement patterns and the nature and impact of international migration (Roux, *ibid*).

6.3 Population

The overall population of post-apartheid South Africa and per province is shown in Table 6.1, adopted from Roux (2009). From the table, Roux notes South Africa‟s population increased from almost 41 million in the 1996 census to nearly 45 million in the 2001census and 48 million in the 2007 community survey. At a provincial level, Roux also notes that the historically most populous province of KZN increased from a population of 8.6 million in 1996 to 10.3 million in 2007, with Gauteng being the fastest growing province, growing from 7.6 million in 1996 to 10.5 million in 2007.

Table 6. 1: Provincial distribution of population - 1996, 2001, 2007

Provinces	Census 1996	Census 2001	Community Survey 2007
Eastern Cape	6 147 244	6 278 651	6 527 747
Free State	2 633 504	2 706 775	2 773 059
Gauteng	7 624 893	9 178 873	10 451 713
KwaZulu-Natal	8 572 302	9 178 873	10 259 230
Limpopo	4 576 133	9 584 129	5 238 286
Mpumalanga	3 124 203	4 995 534	3 643 435
Northern Cape	1 011 864	3 365 885	1 058 060
North West	2 936 554	991 919	3 271 948
Western Cape	3 956 875	3 193 676	5 278 585
South Africa	40 583 573	44 819 778	48 502 063

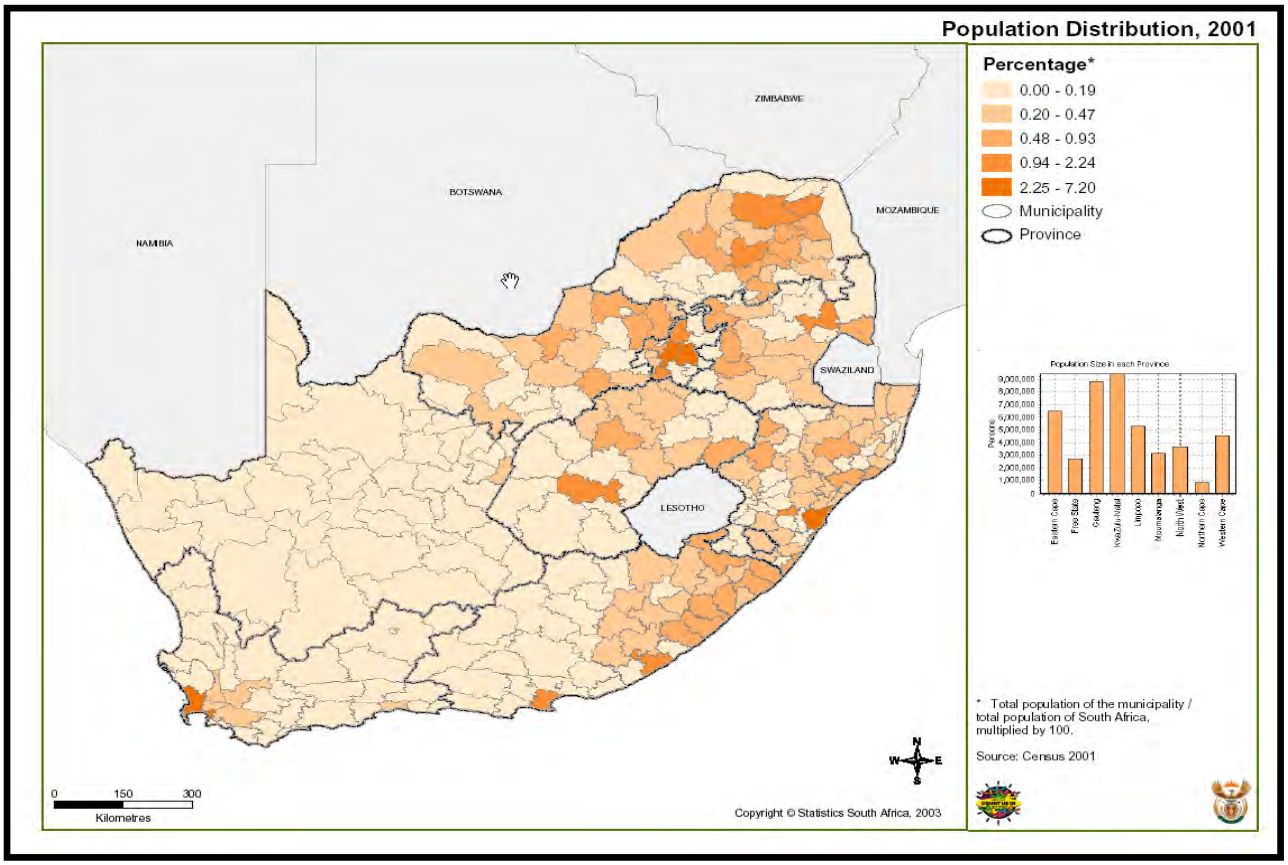
Note: All figures are based on the new provincial boundaries. Source: Roux (2009: 7)

The highest concentrations of population are found in the largest metropolitan municipalities in Gauteng; eThekwini Municipality (KwaZulu-Natal), Cape Town (Western Cape) and Nelson Mandela Bay Metropolitan Municipality (Eastern Cape). This is noted from Roux (2009) and depicted graphically in Figure 6.1 below. Roux also highlights that the population density in South Africa increased from almost 33 persons per square kilometer in 1996 to almost 40 persons per square kilometer in 2007. However it is also significant to note that population densities vary from province to province, with the largest province in area, the Northern Cape, characterized by the lowest densities of population (2.8 persons per square kilometer in 1996 which increased to 2.9 persons per square kilometer in 2007). Gauteng is the most densely populated (increased from 448.3

persons per square kilometer in 1996 to 614.5 persons per square kilometer in 2007) and KZN is the second most densely populated (114 persons per square kilometer in 2007) (*ibid*).

Reforms to apartheid legislation have also had a significant impact on the economic characteristics of the population in South Africa. Geyer *et al* (2011: 265) note that as a result of affirmative action there has been remarkable shift in the commercial, industrial and service sectors favoring the previously excluded races, namely, Blacks, Indians and Coloureds. This is also alluded to by Mabin (2005: 55), who notes that the first four years of democratic government saw a shift to 22% of managerial positions in the civil service being occupied by Blacks. However, this was not sufficient to address the general problem of poverty among Blacks that was inherited from the apartheid government. According to Leibbrandt *et al* (2010), at any poverty line, Africans are very much poorer than Indians and Coloureds and measured poverty amongst the three racial groups increased between the 1996 and 2001 national censuses. This illustrates that post-apartheid policies have led to an increase in intra-racial income inequalities.

Figure 6. 1: Population Distribution in 2001



Source (Roux, 2009: 8)

South Africa experienced economic growth between 2004 and 2008 due to its stable micro-economic environment and the global commodities boom (Carapinha, 2009). However, this growth has not translated into economic opportunities. With the increase in rates of rural to urban migration after the collapse of apartheid, unemployment increased from 31.2% in 1993 to 35.6% in 1996 and rose to 38.8% in 2005 with the highest rate being recorded in 2002, when it was 41.8% (Kingdom and Knight, 2004, 2007 cited in Geyer *et al*, 2011). As such Geyer (*ibid*) highlights the fact that in the context of increasing rural-urban migration and international migration most people are finding employment in the informal sector.

6.3.1 Urbanization and Urban growth

The reform of the apartheid administrative definition of rural and urban settlements started in the mid-1980s when Regional Services Councils (RSCs) were promulgated. RSCs contained seeds of metropolitanization within them (Cameron, 2006: 9). According to Smith (1992: 6), the administrative structure of South African cities was altered by the introduction of a new constitution in 1984, which saw the Whites only parliament replaced by three separate houses (the House of Assembly for Whites, House of Representatives for Coloureds and House of Delegates for Asians); there was an explicit distinction in government between what were regarded as the „own affairs" of one race group and „general affairs". Thus Smith (*ibid*) notes that local councils dealt with „own affairs" and RSCs dealt with „general affairs." The introduction of the RSCs was recognition of the fact that some areas settled by Blacks administratively excluded from the urban system were indeed part of it. This implies that urbanization and urban growth had increased. While the RSCs went some way towards ameliorating apartheid contradictions in the urban areas, the question of the homelands/the South Africa divide at the broader level remained unresolved by 1985 (McCarthy, 1992: 30).

The Local Government Transition Act (1993) that was passed as a result of the myriad negotiated settlements sought to deal with the problems of apartheid conceptualizations of urban growth and urbanization. Sadiki and Ramutsindela (2002: 76) note that the Act dealt with the rural-urban dichotomy in the restructuring of local government by recognizing three categories of local government structures, namely, metropolitan, urban and rural local government with differentiated powers, functions and structures according to considerations of demography, economy, physical and environmental conditions and other factors which justify or necessitate such categories. As such they note the subsequent establishment of Transitional Metropolitan Councils (TMCs), Transitional Local

Councils (TLCs) and Transitional Rural Councils (TRCs) in 1994. These are shown in Table 6.2 below.

Table 6. 2: Number of local authorities per province, 1998

Province	Metro	Urban	Rural
Eastern Cape	0	94	89
Free State	0	80	19
Gauteng	16	14	21
KwaZulu-Natal	17	61	52
Mpumalanga	0	55	28
Northern Cape	0	64	48
Northern Province	0	12	38
North West	0	30	23
Western Cape	7	61	52

Source: Republic of South Africa (1998, cited in Sadiki and Ramutsindela, 2002: 58).

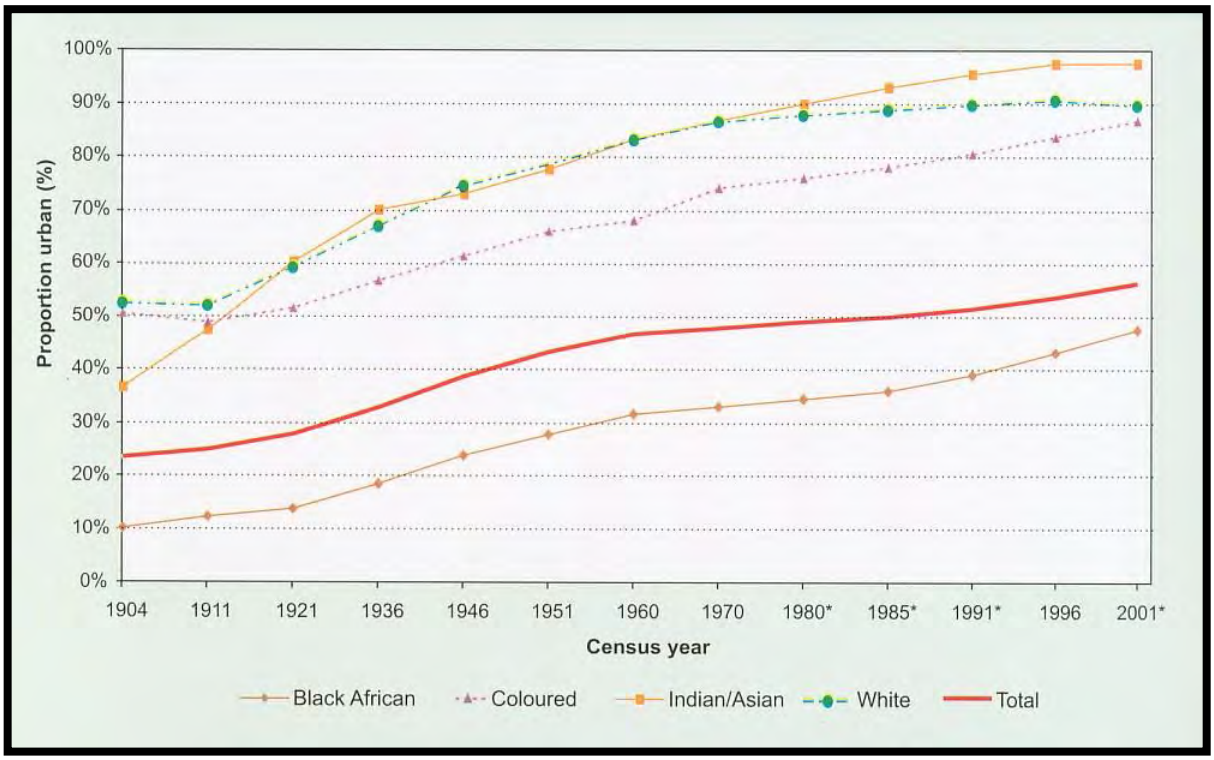
Sadiki and Ramutsindela (*ibid*) note that the Local Government Transition Act (LGTA) defined a metropolitan area as any area comprising the areas of jurisdiction of multiple government; which is densely populated and has an intense movement of people, goods and services within the area; which is extensively developed or urbanized and has more than one central business district; and which economically forms a functional unit comprising smaller units which are interdependent economically in terms of services. They also note that the classification of local government into rural or urban served to reinforce rural-urban dichotomies due to the resistance to amalgamation on the part of conservative White towns and traditional leaders.

Roux (2009) notes that between 1980 and 1996 the definition of an „urban area" was based on the legal requirement that these areas fall under the jurisdiction of a municipality or any other local government. However, Roux (*ibid*) notes that with the promulgation of the Municipal Systems Act of 2000 which established wall-to-wall municipalities that cover the whole country, this mode of classification became impractical. Therefore, according to Roux, in the 2001 Census, enumerator areas defined rural areas as those with settlement types falling within commercial farming and traditional authority areas, with urban areas comprising formal and informal areas. It should be noted, however, that the definition of urban and rural is still haunted by the apartheid legacy. This is in view of the fact that a large number of dense settlements that were created in rural areas by the processes of resettlement, displacement, and settlement betterment programmes (Roux, 2009) have a limited agricultural base and are dependent on commuter income, remittances and social grants (de Villiers Graff, 1987, *cited in* Roux, 2009).

Overall it can be discerned from Figure 6.2 below that in 2001 South Africa was 56.3% urbanized. However this figure does not depict intra-racial disparities. Black Africans, who comprised 79% of

the total population of approximately 45 million, were 47.5% urbanized, compared to Whites, Asians and Coloureds who were 89.9%, 97.5, and 86.8%, urbanized respectively as shown in Figure 6.2 and Table 6.3 below. This is simply a reflection of historical urban growth and urbanization trends from colonial times up until the apartheid era, when the Coloured, Asian and White populations dominated urban residence *vis-a-vis* Blacks because of influx control legislation. From the 1980s there was a tremendous surge in the urbanization of Blacks due to the relaxation of the of apartheid legislation that curtailed basic liberties on a racial basis.

Figure 6. 2: South Africa's historical urbanization trends



Source Roux (2009: 10)

Table 6. 3: Urbanization levels by population group, 2001

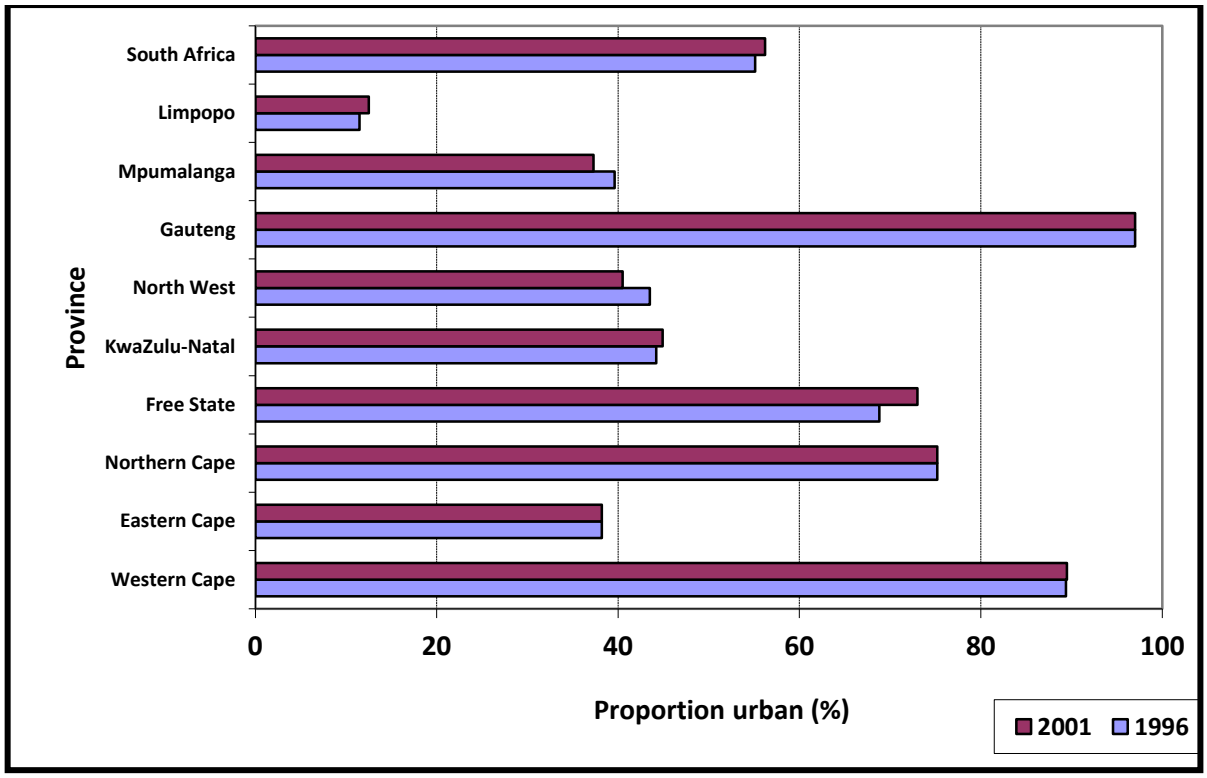
Population Group	Total Population	Urban Population	Rural Population	Proportion Urban
Black African	35 433 492	16 820 234	18 613 258	47,5%
Coloured	3 987 419	3 460 376	527 043	86,8%
Indian/Asian	1 113 183	1 085 279	27 904	97, 5%
White	4 285 683	3 851 681	434 002	89, 9%
Total	44 819 777	25 217 571	19 602 206	56, 3%

Source Roux (2009: 11)

At a provincial level, urbanization and urban growth varies tremendously. This is reflected in Figure 6.3 below, adopted from Roux (2009), which illustrates variances in urbanization rates per province,

with Gauteng at 96%, Western Cape 90%, Northern Cape 80%, Free State 75%, Limpopo 11%, Eastern Cape 38%, Mpumalanga 39%, North West 41% and KwaZulu-Natal 45% urbanized.

Figure 6. 3: Urbanization levels per province



Source: Roux (2009: 11)

It should be noted that the main cause of urban growth in South Africa is natural population increase. Roux (2009) highlights this by pointing to the United Nations Population Fund (UNPF) report of 2007 which notes that natural increase contributes about 60% of urban growth in a median country. In South Africa, Roux points to research by Lindau and Gindrey (2008) on migration and population trends, which shows that almost three-quarters (74%) of population growth in Gauteng is due to natural growth, as most of the women in this province are still in their reproductive stage (15-50 years). Considering that a significant proportion of the population still resides in rural areas, natural increase cannot be considered a significant driver of urbanization, as this depends on the difference in natural increase between rural and urban areas. However, it should be noted that migration is and will continue to be a key driver of urban growth and urbanization.

Differential urbanization rates should also be noted, as the biggest metropolitan areas in the country which contribute about 55% of the country‟s GDP, namely eThekwini, Cape Town, PWV and Port

Elizabeth have grown more than intermediate and small towns. Their rate of growth has also outstripped the rate of South African population increase as shown in Tables 6.4 and 6.5 below.

Table 6. 4: Proportional distribution of populations and households by type of area

Area	1996		2001		Average annual growth rates
	Population	Proportion%	Population	Proportion %	
Metro	12608232	0.31	14681220	0.33	0.0309
Urban	9644692	0.24	10422108	0.23	0.0156
Rural	18330646	0.45	19715990	0.44	0.0147
Total	40583570	100,00%	44819318	1	0.0201

Source Roux (2009: 13)

Table 6. 5: Growth of nine largest cities in South Africa compared to the South African population

	Annual population growth rates	
	Nine Metros	South African
1946-1970	3.45%	2.73%
1970-1996	3.09%	2.42%
1996-2005	1.96%	1.62%

Source Roux (2009: 13)

Considering that urban transition in South Africa is still dominantly due to migration rather than a function of natural increase (Cross, 2000, cited in Singh, 2006), it is important to explore migration dynamics in post-apartheid South Africa.

6.3.2 Migration

Since the political transition in 1994, new land reform policies, spatially targeted development initiatives, infrastructure improvement, the eviction of farm workers and labour tenants, and an influx of refugees and migrants from elsewhere in Africa have contributed to population movement (Fay, 2011: 9). In order to comprehend migration at a more detailed local level researchers have based their studies on a settlement typology that reflects the past and present forces shaping settlements in South Africa. For instance, Collinson *et al*"s (2007) analysis of migration, settlement change and health in South Africa based on the 2001 national census, classified people into five categories of settlement typology namely; „Metropolitan formal", if they resided in one of the country"s seven metropolitan areas; „Secondary urban", if they resided in a smaller city or town, "Informal urban", if they resided in a marginal slum, squatter settlement or informal township; „Tribal area", if they resided in a former „homeland"; and „Formal rural" if they resided on a commercial farm. Cross (2009) also identifies five settlement typologies that have an impact on poor people"s migration, namely, traditional rural settlement areas, the old townships, rural villages with non-traditional housing, slum areas with shack-type housing and self-development areas with owner-built, decent quality housing.

One of the main issues that emerge from studies of migration in post-apartheid South Africa is that urban-to-urban moves make up the majority of migrations captured in the national census. This is captured in Table 6.6 below adopted from Collinson *et al* (2007: 4). Collinson *et al*'s table shows that all settlements of origin showed a net population loss to metropolitan areas, which gained four persons per 1,000 population relative to secondary urban areas and three persons per 1, 000 population more than the former homelands.

Table 6. 6: National-level settlement transition matrix, South Africa, 2001

	Metropolitan formal	**Secondary urban**	**Informal urban**	**Former homeland**	**Commercial agriculture**
Metropolitan formal	28	5	1	1	1
Secondary urban	9	28	2	5	4
Informal urban	1	2	1	0	0
Former homeland	4	6	1	6	2
Commercial agriculture	4	1	0	1	1

Cells contain the migration rate per thousand population in the period between censuses, from the row settlement type as origin to the column settlement type as destination. Source: National Census data. In Collinson *et al* (2007: 79)

It should be noted that step-wise migration is also a dominant feature of migration in post-apartheid South Africa. While a migrant may aim to move to a metro, he/she may do so by initially moving to other rural areas, smaller neighbouring towns and eventually peri-urban settlements before making it into the metro itself (Singh, 2006: 12). Collinson *et al* (2007: 6) highlight that there is evidence at the national level that although positive net migration flows to metropolitan areas are from settlements of all types the largest net gains are from secondary urban areas.

Another dominant form of migration is return. This is characterized by the movement of people out of metropolitan areas to secondary cities and rural areas due to quality of life considerations. The growth of secondary cities is in some cases a result of migration out of metropolitan area due to urban poverty, while in other cases people move out of secondary cities to rural areas for similar reasons (Collinson *et al*, 2007). This is demonstrated in Table 6.7 below.

Table 6. 7: Destination of circular, temporary migrants, both genders, 2002

Temporary migration destination	***n***	**%**
Village-to-village moves	212	2
Nearby towns	1277	11
Secondary urban	4936	41
Primary metropolis	5588	46
Other unknown	48	0
Total	12061	100

Source: Agincourt data in Collinson *et al* (2007: 81)

Also important is migration within rural areas. According to Fay (2011: 9) Cross" studies are among the few to note the importance of rural to rural migration in a changing context. Fay notes that in 1998 Cross (Cross *et al*, 1998: 635) and colleagues observed that „little is known about people who move from place to place, and much of what we thought we knew might be incorrect". They found that nearly a third of the population of KwaZulu-Natal had migrated in the past 15 years, with a surprising three-quarters of these movements appearing to be rural-rural, with many oriented towards advantaged rural areas around small towns and secondary cities where housing and public amenities might be available (Cross *et al*, 1998: 635).

The observation by Cross *et al* is corroborated by Collinson *et al* (2007: 5), whose study on migration based on Agincourt data highlights that the most common moves include village-to-village moves, moves between villages and nearby towns, moves to and from secondary urban centres and also from those linked to the main metropolitan areas. This is shown in Table 6.8 below. From the table, Collinson *et al* (2007) note a high degree of village-to-village moves as well as nearby towns gaining population from rural villages. They also note that the reasons for permanent migration include, among others, marriage, divorce, and movement by families from rural villages in order to gain better access to services. As such it should be noted that although migrants are still attracted by employment in metropolitan areas, high unemployment rates have slowed down and in some instances diverted migration streams (Roux, 2009). Many migrants are moving into local towns and dense peri-urban or even rural settlements that offer the promise of access to employment and housing, although weak economies make finding employment very unlikely (Roux, 2009: ii).

Table 6. 8: Sites of permanent migration, Agincourt study, 1992 - 2003

Destination/origin category	Number of out-migrations	%	Number in-migrations	%	Sum of in-and out-migrations	Net migration	Ratio of net migration to out-migration
Village-to-village moves	40457	72%	40290	79%	80747	-167	0
Nearby towns	6067	11%	2686	5%	8753	-3381	-0.56
Secondary urban	4670	8%	4012	8%	8682	-658	-0.14
Primary metropolis	2298	4%	1550	3%	3848	-748	-0.33
Other and unknown	2996	5%	2357	5%	5353	-639	-0.21
Total	56488	100%	50895	100%	107383	-5593	-0.1

Source: Agincourt data in Collinson *et al* (2007: 80)

Fay (2011: 9) also notes that in a more recent study (2006), Cross shows that migrants who left one rural area to move to another were more diverse, and „there was less emphasis on employment than in other rural-origin streams, and more on life cycle events, evictions (21%) and family concerns (21%)" (Cross, 2006: 219), as shown in Table 6.9 below.

Table 6. 9: Reasons for migration

Reason for migration	Rural-rural	Rural-small town	Rural-urban
Development	9	8	2
Employment	25	34	72
Education	12	29	49
Housing	8	38	49
Services	9	23	15

Source: Cross (2006: 216)

Local institutions also play an important role in determining rural in-migration. Fay (2011: 10) highlights the fact that rural tenure systems‟ effectiveness in excluding outsiders from settlements range from reasons relating to levels of local demand to the effectiveness and integrity of local government, traditional government and kinship networks. As such Fay (*ibid*) argues that during apartheid and in the post-apartheid period, the differing priorities of urban and rural-bound migrants and rural tenure institutions have all shaped rural migration in ways that contradict the notion that migrants are simply drawn by the attractions of their destinations.

Women have also become significantly more mobile since the mid-1990s and although many continue to migrate as dependents with their partners, an increasing number are doing so independently (Roux, 2009: ii). Posel (2006: 221) notes that in 1993, an estimated 29% of all migrant workers from rural South Africa were women; by 1999, their share had risen to 32%. Women are often restricted to low-paying, unskilled employment such as commercial sex, informal trading and domestic and agricultural work (Roux, 2009: ii). Migration occurs in response to their increased need to contribute economically and changing gender relations, which give them more freedom (Posel, 2006). This is reflected in Table 6.10, adopted from Singh (2006: 20). The underlying reasons for increasing female mobility are summed up by Casale and Posel (2002b: 16-17, cited in Singh, 2006) who note that:

> „The percentage of household heads between the ages of 15 and 65 who are female increased from 28 percent in 1995 to 34 percent in 1999. The increase in female-headed households may reflect greater marriage desertion, but it is also possible that more women are choosing to remain unmarried. The proportion of the female population of working age who reported themselves married decreased from 39.5% in 1995 to 35.2% in 1999, while the proportion of females either living with a partner, divorced or separated, or never married increased over the same period.‟

Table 6. 10: Proportion of South African workers in the formal and informal economy by gender, 2001

Gender	Formal economy %	Informal economy %
Male	61.1	54.5
Female	38.9	45.5
Total	100	100

Source: Stats SA (2001) cited in Singh (2006: 20)

It should also be noted that women and rural-urban migrants in general in South Africa, do not end up in the-well established townships, but rather in informal settlements on the urban edge that technically fall within the physical boundaries of the city, but are poorly serviced by municipalities (Singh, 2006: 12).

Labour migration, historically the dominant form of migration in the region, has been joined and even surpassed by new forms of migration. A growing number of migrants are moving to gain access to education, to take up skilled occupations or engage in trade, tourism or other business ventures (Roux, 2009: ii). Documented migration, particularly from the rest of the African continent, is growing steadily, as demonstrated in Table 6.11 below.

Table 6. 11: Legal immigration to South Africa, 1990-2004

Year	Legal Immigrants	African Immigrants	% African immigrants
1990	14 499	1 628	11.2
1991	12 379	2 065	16.7
1992	8 686	1 266	14.6
1993	9 824	1 701	17.3
1994	6 398	1 628	25.4
1995	5 064	1 343	26.5
1996	5 407	1 601	29.6
1997	4 102	1 281	31.2
1998	4 371	1 169	26.7
1999	3 669	980	26.7
2000	3 053	831	27.2
2001	4 832	1 584	32.8
2002	6 545	2 472	37.8
2003	10 578	4 961	46.9
2004	10 714	5 235	48.9
Total	**110 121**	**29 745**	**27**

Source: Roux, (2009: 38)

Although the number of undocumented migrants is difficult to estimate with any certainty, deportation figures suggest that the number has grown significantly over the past few years (Roux, 2009: iii). Posel (2006: 219) notes that official statistics of undocumented immigrants provided by the South African Police Service (SAPS) suggest that in 1995, between 5.5 and 8 million illegal immigrants resided in South Africa.

Circulation is also another dominant feature of migration in South Africa. During the apartheid era, restrictions on destinations and duration of stay placed on both internal and cross-border Black labour migrants gave rise to patterns of circular or oscillating migration; labour migrants would retain a permanent home base in their community of origin to which they would return each year

(Posel, 2006: 217). This pattern has persisted in post-apartheid South Africa. Collinson *et al* (2007: 6) note that this pattern of labour migration established in the apartheid era has established social networks, cultural acceptance, and transport systems to facilitate the temporary migration of both men and women in post-apartheid South Africa. Continuing patterns of circulation may be explained by rising labour market insecurity in South Africa, access to land, retirement preferences and the role of the household of origin in the care of children (Posel, 2006: 217). Collinson *et al* highlight the fact that rural migrants are likely to move to the primary metropolis due to the promise of employment and advancement, regardless of it being further away than any other possible destination.

It should be noted, however, that some studies show that circular migration in South Africa is on the decline. Singh (2006) points to a study by Cross *et al* (1998) that notes that KZN is experiencing a decrease in labour migration to the metros as well as a decline in remittances to rural areas; this indicates declining circular migration. Singh (*ibid*) also highlights Mosoetsa‟s (2004) study conducted in Mpumalanga Township near Durban, which found that although urban-rural linkages persist and are significant in the township, their nature seems to have changed due to high rates of unemployment and poverty.

Another dominant type of migration in South Africa occurs within urban areas. There is evidence of the gentrification of South African cities. This occurs due to inner city revitalization and regeneration programmes. Adebayo (2011) laments the displacement of poor people in the inner city area neighbourhood of Durban as a result of neighbourhood revitalization programmes undertaken by the eThekwini Municipality. Another dominant pattern of migration is occurring among upper low income households who are beneficiaries of social housing. Adebayo (2011) highlights that, some households who are beneficiaries of the Shayamoya Social Housing project in the suburban area of Durban are subletting their apartments and moving into the nearby informal settlement area of Mayville as a survival strategy in the context of economic hardship.

6.4 Morphology of settlements in post-apartheid South Africa

As has been noted in Chapter 4 (in the section on the morphology of Third World cities), Porter and Lloyd-Evans, (1998) note that the morphology of developing world cities is a manifestation of various forces that have influenced them from colonial times through to their current position in the post-colonial global economy. Likewise, the spatial structure of post-apartheid South African cities is a reflection of their history that dates back to colonial times, passing through the apartheid era up to

the present post-apartheid era where imperatives to redress past apartheid misdeeds and the competitive demands of globalization are at the fore.

Thus one notes that the function of cities as central places, resource localization that influences their location and function in some instances, the differentiation brought about by different economic policy regimes and population characteristics impacted by settlement function or *vice versa* depending on the context and concomitant urban growth and urbanization trends are all spatially manifested in post-apartheid South African cities. Therefore post-apartheid cities in SA are best reflected by the Model of sub-Saharan Cities in Figure 3.2 in Chapter 4, adopted from De Bliji *et al* (2007). The main structuring elements are a dual CBD made up of the formal sector (high rise government administrative offices and corporate offices) and the informal sector (mostly street traders); concentric zones of industry outside the CBD; and residences of declining quality radially extending outwards with low-income formal and informal housing at the periphery. However, although this model captures some of the most features of the post-apartheid city it is static and fails to capture the polycentric nature of South African metropolitan areas due to global capital and local forces. In this regard White‟s model of the 21st century city in Figure 2.6 in Chapter 2 is useful in capturing the spatial structure of post-apartheid South Africa cities.

In South Africa cities, the CBD is also made up of a dual space, namely, the formal and informal. Geyer *et al* (2011) note that since the mid-1980s there has been an upsurge in informal trading in the traditional South African CBD, with street vendors using street pavements and sidewalks in front of formal businesses. According to Geyer *et al* (2011: 269-270), this had a significant impact on the spatial structure of cities as formal businesses reacted in six main ways that spatially manifest themselves, namely:

a) Formal business located in areas where informal trade intensified started mimicking the informal style by focusing on the lower ends of the market and also displaying their products on the sidewalks where informal traders operate from as a way of recapturing lost space. As such the traditional CBD in post-apartheid SA cities is now characterized by formal and informal spaces.

b) A development also to the previous one is an increase in the upgrading of existing shopping malls in the centre of the city in areas perceived as safe, targeting higher income shoppers. Thus central city areas are also made up of security oriented formal shopping malls, as the case of The Workshop in central Durban and The Wheel on the Point Water Front.

c) Commercial and professional business has also relocated to older residential areas on the fringes of the CBD, which is mostly a zone of urban decay (this development is

highlighted by Adebayo (2011) in his paper „The Big Plan: Household Survival Strategies in the Context of Economic Hard Times". Adebayo shows how households in the Glenmore inner city middle to upper income neighbourhood have remodelled their houses for various usages, including commercial and retail use, in the context of economic hard times).

d) Specialized commercial and service functions have relocated along main collector roads leading to the main CBD or connecting shopping malls (*see also* Mabin, 2005 on the development of office parks).

e) Suburban and even exurban shopping malls catering for high income people have also been developed. This is associated with the development of middle and high income residential estates and the development of enterprise development zones and intelligent transportation systems, for example, the Gautrain that links Fourways and Sandton with Oliver Tambo International Airport. As such one notes the development of edge cities that counter the traditional CBD in SA cities, a development linked partially to the competitive drive of the country's macro-economic policy.

f) There has been growth in specialized home businesses such as professional services, art galleries, specialized cloak repair services, computers and specialized jewellery services.

Whilst these six developments capture the nature of the post-1994 South African city space economy and the location of upper income residential areas, they fail to capture the location of low income groups, mostly Blacks, who are segregated on the basis economic factors rather than skin colour as in the past. A key spatial characteristic of the post-apartheid South African city is the peripheral location of low income residential areas, both formal and informal. Although there are peculiarities to this phenomenon, the reasons for this trend are both historical and contemporary.

As has been noted, during the apartheid era the authorities located low income Black people in sometimes ethnically homogeneous neighbourhoods in segregated peripheral locations. Towards the end of apartheid, with the collapse of influx control, formal and „formal" informal residential areas were located on the periphery of cities as in the case of Orange Farm in Johannesburg. In post-1994 South Africa, low income housing has mainly been peripherally located for various reasons, some of which include the shortage of well located land and the affiliated problem of shortage of funds to buy well located land for low income housing developments. Considering past and present developments, four housing stocks for the low income group, mostly Blacks, can be identified in South African, cities namely, the old township housing stock, private housing stock, and RDP and informal housing stock. Their characteristics are described by Shisaka Development Management Services (SDMS) (2003) and Napier (2007).

The old township stock dates to 1948 and is the most dilapidated and poorly planned in terms of community needs and amenities (SDMS, 2003). However, SDMS (*ibid*), citing Crankshaw *et al*

(2003) and Morange (2003) respectively, note that given the outward sprawl of metropolitan areas some of this stock is relatively accessible to economic opportunities and is also perceived as more secure and stable relative to the new RDP or informal settlements.

Private sector stock was enabled by the promulgation of the 99 years leasehold for the African townships in the 1980s (SDMS, 2003). According to SDMS (*ibid*), since mid-1997, with the second phase of the Home Loan Guarantee Company (HLGC), there has been some re-engagement on the part of the banks in township housing markets.

The RDP housing stock has been provided by the national housing subsidy programme since 1994. SDMS notes that while some stock is relatively well located in terms of access to socio-economic opportunities and amenities, some of it is also poorly located.

The informal housing stock, according to Geyer *et al* (2011), is normally located on the periphery of cities far from economic opportunities. However, there are some exceptions, as in the case of Mayville in Durban. It should be noted that some new migrants, especially those from other African countries, have moved into the older central city neighbourhoods characterized by urban decay as in the case of Hillbrow in Johannesburg and Sunnyside in Pretoria (Geyer, 2011).

Considering that the post-1994 South African state is operating within a neo-liberal macro-economic policy framework, a framework her predecessor, the apartheid state started adopting at the end of the apartheid era in the 1980s, the story behind the current morphology of South African cities lies in the post-modern school or post-colonial school of thought, which is a developing world version of post-modernism. Post-modernism appreciates the changes brought to the economy, the knowledge industry and state due to the changes in modern capitalism at the dawn of the techno-economic paradigm from the 1970s. Neo-liberalism implies that the grand assumption of modernism that the state wields the capacity to formulate and implement development goals is largely obsolete, as illustrated by the involvement of various stakeholders in the formulation and implementation of policies, namely, the private sector, NGOs, quasi state enterprises, CBOs and in some instances, individuals. As such neo-liberalism is a movement away from government to governance which is the interactive relationship between the rulers and the subjects.

Likewise, the South African government has been operating in ways that are in tandem with post-modernism. The embracing of regionalism at the end of the apartheid era, as illustrated by the promulgation of provinces based on ethno-linguistic coherence and economic congruence, which

have a mutual working relationship with the central government bears testimony to the fact that post-modernism is of importance in understanding development trajectories in South Africa, in this case the spatial structure of settlements. Secondly, PPPs between the South African government and various local and international development agencies show that development solutions do not lie with the SA state alone. Various NGOs have driven community development agendas on their own or in partnership with the private sector or the state. Equally important has been the role of CBOs, which have mushroomed across the poor neighbourhoods of SA since the opening of the democratic space in 1994, especially in Black townships, addressing a range of social, economic and environmental community concerns. As such, one should note that post-apartheid South African settlements morphology is not only fixed to an extent, as it has been shaped by historical forces, but it is also fluid, because of the presence of multiple and competing narratives in the post-1994 South African state. As such the spatial structure of settlements is a reflection of global discourses of competitiveness, sustainable development discourses promoted by multi-lateral agencies such as UNHabitat, CBOs representing community social, economic and environmental needs such as service backlogs and environmental pollution and the ingenuity by individuals and their households in their quest to make ends meet in the context of economic hardship. Aptly, their present and probable future morphology can be comprehended by analysing the multiple and competing narratives from the various stakeholders in governance.

However, it should be emphasized that the morphology of settlements, as the synthetic theory of settlements developed in Chapter 2 has already demonstrated in the analysis of literature on international and local precedents for the evolution of settlements and trends, is a reflection of function and its affiliated influences, including resource localization, differentiation, and heterogeneity and how they interact with population in mutual or distorted ways, depending on the context. Therefore, by arguing that the morphology of settlements in a particular context is explained by a certain school of thought, in the South African case the post-modern school of thought, one is also alluding to the fact that the story behind the function and population is explained by various schools of thought.

Equally important is that the post-colonial or post-modern school of thought should not been seen as an alternative or a totally separate viewpoint from other traditional schools of thought such as Marxism, Urban Managerializm and Urban Political Economy that explain the spatial structure of settlements; rather, it should be seen as a development of these schools of thought. This is so because

it is made up of micro-narratives. The cornerstone of the post-modern school of thought is why some narratives become dominant at the expense of others.

For, instance, while Mabin"s (2005) article on "Suburbanisation, Segregation and government of territorial transformation" can be described as esoteric, this does detract from its reliance on urban political economy to explain the spatial structure of cities in particular high income ex-urban residential estates and shopping malls, a development that has in some cases given rise to edge cities. However, the article does not explain why the private sector agenda reigns supreme in a context where there are multiple agendas, some of which have nothing to do with big capital, but rather with social justice and sustainability.

6.5 Conclusion

This chapter has demonstrated that, in as much as there have been positive policy intentions to promote sustainable development in post-apartheid South Africa as manifested in the notion of Integrated Development Planning, settlement patterns and trends have remained much as they were in the pre-democratic era. Poverty, high unemployment rates, inequality and the peripheral location of low-income groups in mono-function areas have been the norm in post-apartheid South Africa. The reasons include a shortage of appropriately located land for low-income housing in cities as well as the vulnerability context, such as a macro-economic environment which is subjected to turbulent and unpredictable global markets, as demonstrated by the recent economic melt-down due to the global economic recession.

7. Chapter Seven: The Case Study of KwaZulu-Natal (KZN) Province

7.1 Introduction

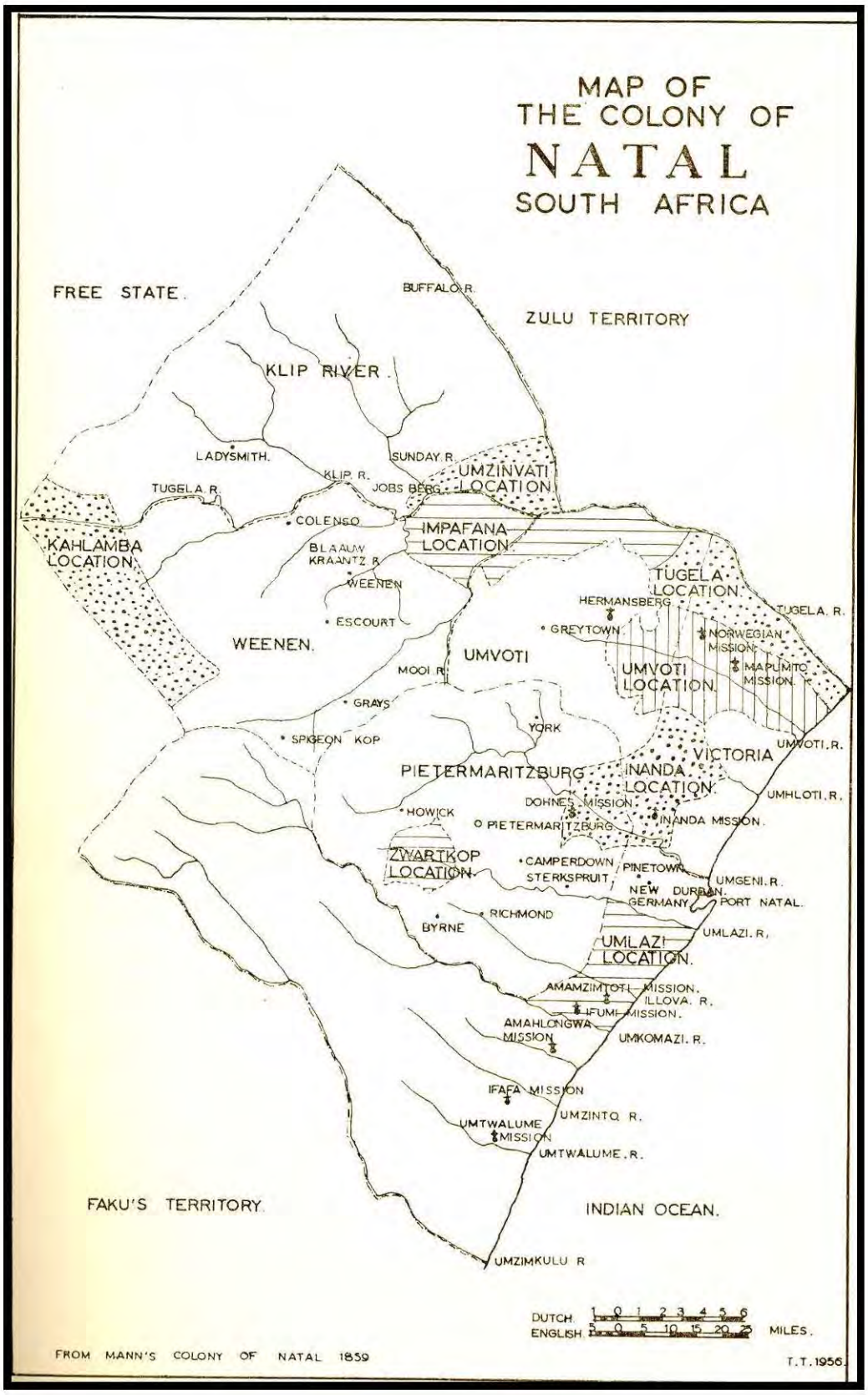
This chapter traces the historical evolution of settlement patterns and trends in the Province of KZN from colonial times to the present post-apartheid era. The framework of analysis used is similar to the one applied to the literature on international precedents and the South African case, namely, settlement function, population and morphology of settlements. Likewise, the historical evolution of settlements is traced through the main epochs of South Africa‟s history, namely, colonial times up to the formation of the Union of SA: 1652 - 1910; the formation of the Union up to the peak apartheid era: 1910 – 1948; the peak apartheid era up to the democratic era: 1948 to 1994; and the post-apartheid era: 1994- present. The aim is to pave the way for the development and application of a synthetic methodology for empirically assessing settlement patterns and trends which is informed by past and present settlement trajectories in the province.

7.2 KwaZulu-Natal - colonial period to 1910

The first European settlement in the KwaZulu-Natal area was established in Durban in 1824 by British settlers who were attracted by trading opportunities with the interior (Kuper *et al*, 1958: 51). During the 1830s the population amounted to about 30 White persons, largely traders and hunters, and several hundred Africans, most of them refugees from the Zulu wars (*ibid*). Significant changes were ushered in with the exploration of Natal by the Boers during the Great Trek, which subsequently led to colonization in 1838. According to Bennet (1996: 75), in 1838 the Republic of Natalia was declared, bounded by the Tugela and Umzimkulu rivers, after the Dutch trekkers, in a loose coalition with disaffected members of the local population, defeated the Zulu army. The area is shown in Figure 7.1 on the following page. At the time of annexation, the population was sparse because the Zulu wars had decimated and dispersed the weaker tribes (Houghton, 1976: 20). However, the Boer domain in Natalia did not last for long as the British took over from the Boers and renamed the territory Natal.

During this period the function and spatial distribution of settlements in KwaZulu-Natal were largely influenced by European colonization, and the distribution of natural resources such as the availability of navigable water (port), minerals (especially coal) and arable farming land.

Figure 7. 1: Map of the Colony of Natal



Source: Brookes and Hurwitz (1957)

7.2.1 Settlement Function and Differentiation

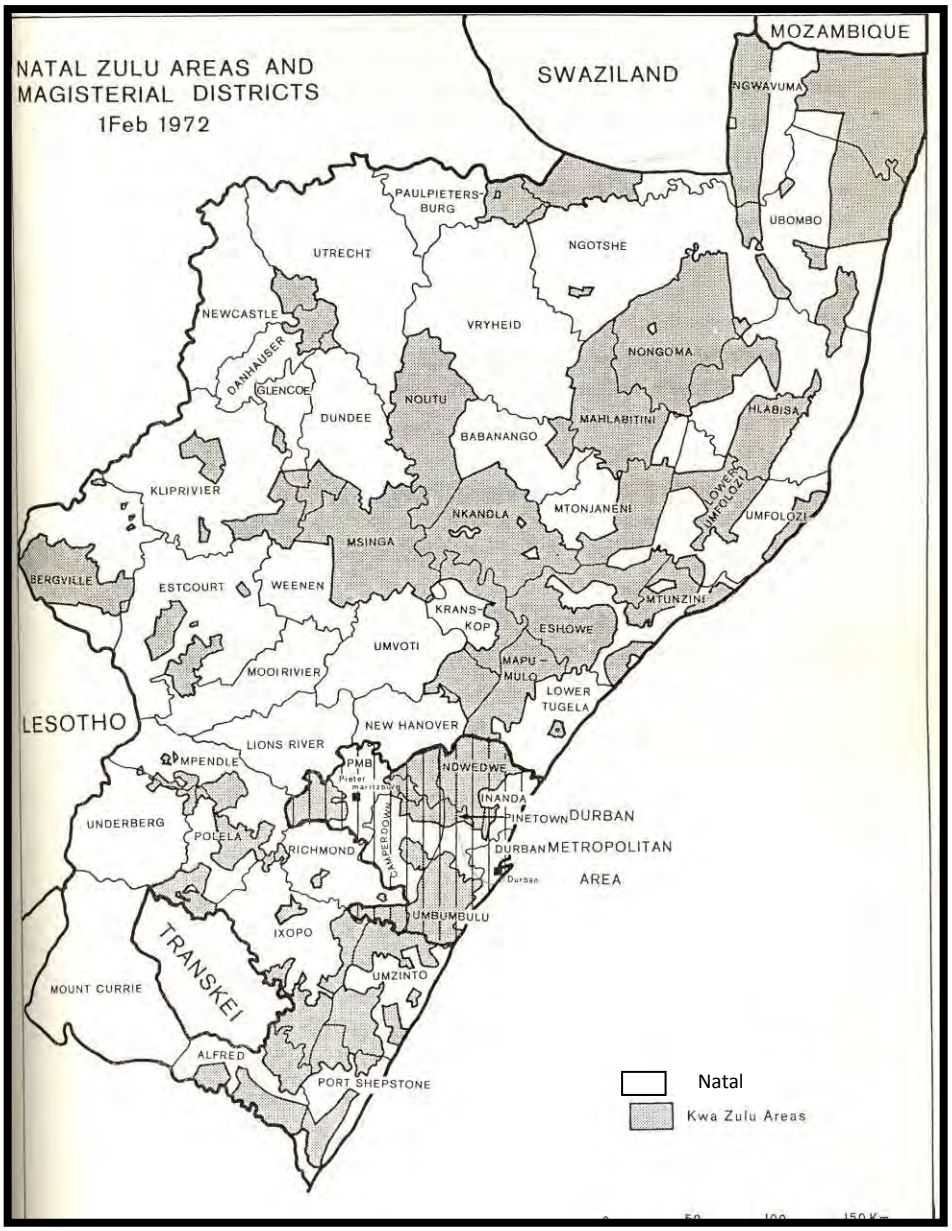
The main architect of Natal‟s policy for controlling if not ruling Africans was Sir Theophilus Shepstone who served as chief agent or Secretary for Native Affairs from Britain‟s effective occupation of Natal in 1846 until 1875 (Welsh, 1972, cited in Duly, 1973: 516). The main differentiation brought to settlements was the separation of land occupied by Europeans and Africans. Bennet (1996) notes that land in Natal, was deemed highly suitable for agriculture, which prompted Britain to encourage immigration in order to exploit the colony‟s agricultural resources. It is in this context that it is noted that Shepstone, who was Governor of the colony of Natal between 1846 and 1875, through his influence on the Natal Native Commission agitated for the creation of certain areas for Black settlement (Native reserves) to avoid them being totally deprived of land (Bennet, 1996; *see also* Brookes and Hurwitz, 1957; Houghton, 1976).

On paper it seemed that the commission aimed to assign the Native population about ten separate tracts, each averaging about 340 square miles and accommodating about 10,000 people (Brookes and Hurwitz, 1957: 2). According to Lambert (2002: 52), in order to prevent an exodus of Voortrekker families and to make land available to British settlers, the administration set aside reserves in areas that were unsuitable for White settlement. Therefore, save in a few instances, reserves were located on the coastal hinterland, the Thukela Valley or the Drakensberg foothills, all unsuitable for agriculture or grazing (*ibid*). Brookes and Hurwitz (1957) note that seven area in Natal were gazetted for the location of reserves on 7 April 1849, namely „Zwartkops, „On the Umvoti River‟, „On the Umlazi River‟, „In the Inanda‟, and „the following junctions of the Umzinyati or Buffalo River with the Tugela‟, „of Umzinyati or Buffalo River with the Tugela‟, „of the Mooi River with Tugela‟, and „On the Tugela including Natives under Chiefs Magadan and Somshasha, including also the abandoned farm of Jacobus Potgieter‟ as shown in Figure 7.1 of the map of the Natal colony.

According to Brookes and Hurwitz (1957) no reserves existed in Natal proper north of the Tugela River (namely, in the areas of Vryheid, Utrecht, and part of Paulpietersburg) before Zululand was ceded to the New Republic in 1884, later absorbed in the South African Republic, and finally given back to Natal in 1903. When the Voortrekkers arrived in the late 1830s, as pastoral people, they sought the Savannah lands of the interior, which were favoured by Asian people and began cutting out large farms for themselves (Lambert, 2002). Brookes and Hurwitz (*ibid*: 12) note that in 1889 there were 210,053 Natives, divided as follows: 77,189 on the coastal belt; 85,006 in the middle belt; and 48,058 in the upper belt; with respective population densities of 15.5, 20.5 and 35 per square mile. Reserves totaling 3, 887,000 acres, excluding 2,613, 000 acres were demarcated with an

average of seventeen acres per person or eighty-five acres per family of arable and grazing land (*ibid*). The Zululand and Natal reserves are shown in Figure 7.2 below.

Figure 7. 2: Natal: Zulu Areas and Magisterial Districts



Source: Stanwix (1985: 103)

Initially, reserves were regarded as Crown land, wherein Africans only had the right to occupy but latter in 1864, according to Bennet (1996) the Natal Native Trust was created to manage them. This system was later changed as the Natal administration sought to reduce administrative costs and reserves were placed under tribal authorities whose mode of operation was customary authority. Furthermore, in each reserve, a „model mechanical school" was to be instituted, where „the useful

arts should be taught and particularly illustrated"; the intention was to provide systematic agricultural instruction (Brookes and Hurwitz, 1957: 3).

Natural factors of production also played a significant role in the function and spatial distribution of settlements in Natal as illustrated by the fact that some settlements grew due to the availability of mineral resources and navigable water. Stanwix (1985) notes, that Durban was established as a port through which limited trade was conducted. The growth of a port in the city of Durban was prompted by the fact that Durban has a large natural habour which lies roughly midway between East London and Lourenco Marques (Kuper *et al*, 1958: 44). According to Kuper *et al* (*ibid*) it is also the port nearest to the Witwatersrand and hence the most cost effective in handling its goods, whilst on the other hand its proximity to Natal coal fields favored its location as the main coal bunkering port in South Africa. The discovery of gold and diamonds stimulated port expansion in Durban, as both mineral and agricultural commodities had to be transported to domestic and international markets (Platzky, 1996). Stanwix (1985) also highlights that the establishment of thriving inland centres of activity increased the demand for consumer goods, most of which had to be transported, since South Africa produced only agricultural goods. Some settlements were established, with their role and spatial distribution significantly influenced by the existence of exploitable coal in large deposits. The coal fields are situated in the Newcastle-Vryheid-Paulpietersburg districts and include virtually all of South Africa"s high grade anthracite deposits (Stanwix, 1985: 30).

Some settlements in Natal were established to serve purely as central administrative centres for their populations and the surrounding areas. As shown in Table 5.3 in Chapter five, most towns that were established in Natal were established by the Voortrekkers as administrative centres. Pietermaritzburg for instance was established in 1839 by the Voortrekkers to serve as the administrative capital of the new Natalia Republic.

Thus the economy of Natal during this era was influenced by natural conditions, specifically favourable agricultural conditions, good water resources, large coal deposits, excellent habour facilities, a large population and tourism potential (Stanwix, 1985). The coastal belt of Natal and the Midlands is suitable for sugarcane production and the other parts of the province are also suitable for poultry, cattle, timber, dairy, maize and pig farming. Stanwix (*ibid*) highlights that it was estimated that Natal contained about 44% of South Africa"s usable water resources. There are also large coal deposits in the Newcastle-Vryheid-Paulpietersburg districts. Natal possesses natural habours in

Durban and Richards Bay, as well as huge tourism potential, from the Drakensberg Mountain range to the sandy beaches on the Indian Ocean coastal strip.

Like other provinces in South Africa, before the formation of the Union, Natal had a largely agricultural economy focused on wool, maize and sugar exports (Stanwix, 1985: 32). Manufacturing was still in its infancy and focused on a narrow range of products such as soap, candles, flour, sugarcane milling, bricks, and iron foundries (*ibid*). African largely depended on subsistence agriculture.

7.2.2 Population

By 1911 the total population of Durban was at 11,023 of which 34% were European, 47% Indian and 19% African (Davies, 1963: 17). Davies highlights that this reflects the growth in the Indian population during periods of active Indian immigration between 1860 and 1911 as their labour was required on the sugar cane plantations.

The Indian population in South Africa has its origins in the indentured labour system, which was introduced by the province of Natal between 1860 and 1911, mainly for the development of sugar, tea and wattle farming, as African labour was proving difficult or impossible to harness (Kuper *et al,* 1958: 25). According to Brookes and Hurwitz (1957: 61-62), in the 19th century the European and Indian groups depended partly on immigration for their increase, while the African population mainly grew due to natural increase. Brookes and Hurwitz (1957: 63) also highlight the rapid growth of the Indian population, which by 1897 had overtaken that of the Europeans, but was still smaller than the Black population which by the 1911 census constituted 80%of the total population of Natal and Zululand.

During the nineteenth century the distribution of population was influenced by political, physical, and, to a smaller degree, economic factors (Brookes and Hurwitz, 1957: 61). The large African population tended to be located in areas that served as reserves and early European settlers tended to avoid more rugged areas and the lowveld and to seek the open highlands, where more favourable pastures and watersheds were to be found (*ibid*). As such the White settlers moved into the coastal sugar farming areas and prosperous Midlands farming districts whilst African settlement was scattered throughout Natal, mainly in the districts of Weenen, Tugela, Inanda, Kliprivier and Alfred (Stanwix, 1985: 33).

However, it should be noted that the policy of dividing land between Blacks and White settlers did not yield totally discrete settlements for the two dominant racial groups in Natal. This is in view of the fact that some Black families remained on private White farms, providing labour for commercial farmers as labour tenants. Lambert (2002: 53) notes that:

> Many also maintained their *imizi* (African traditional homestead) on settler lands, either because the homesteads predated the arrival of whites or because settlers allowed Africans to live on their farms provided they agreed to the conditions of labour tenancy, supplying labourers from their *imizi* for six months a year at a nominal wage and often with a range of extra conditions; those could include the requirement that periods such as weeding and harvesting all inhabitants had to provide labour gratis.

Another factor that kept Africans on colonial settlers‟ farms in Natal, noted by Lambert (2002), was rent tenancy on absentee landlords‟ farms as the suppression of land prices in Natal led to the emergence of a White land speculator class who encouraged Africans to establish *imizi* on their farms from which they drew rentals.

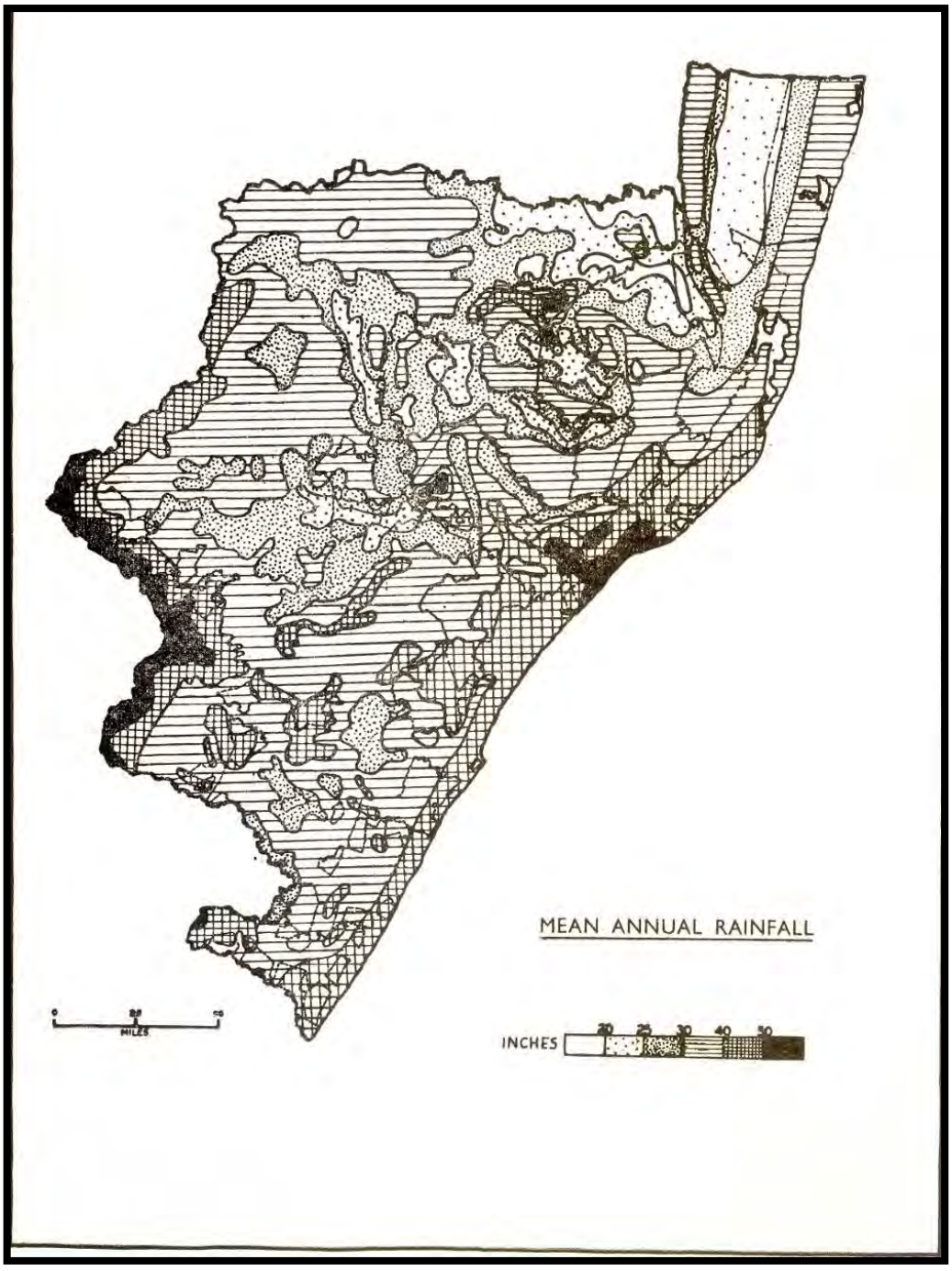
It can be discerned, therefore, that before 1910, the distribution of the population in Zululand and Natal was influenced by political, physical, and, to a smaller degree, economic factors (Brookes and Hurwitz, 1957). The legislative trend in the Province of Natal moved from voluntary to compulsory segregation, a trend linked to developments in Non-European policies throughout the Union of South Africa (Kuper *et al*, 1958: 24). The creation of Native reserves should be viewed as the root of territorial segregation in South Africa.

Most of the African population was located in Native reserves. European settlement tended to avoid rugged areas and lowvelds, occupying highlands and watersheds suitable for pastures, while the Indian population tended to occupy the sugarcane coastal belt, where their labour was required (Brookes and Hurwitz, 1957; see also Lambert, 2002). Furthermore, Brookes and Hurwitz (*ibid*) note that the growth of towns also concentrated population in such centres as Durban, Pietermaritzburg, Ladysmith, and Newcastle, while the value of the coastal belt for subtropical products and of the Midlands for sheep rearing and later for wattle and dairy products created zones of European concentration.

In terms of the economic characteristics of the population, agriculture among native Black Africans was greatly influenced by the arrival of the colonial settlers in Natal. The relocation of Africans in reserves meant that their traditional forms of livelihoods were disrupted. Lambert (2002) notes that the traditional African lifestyle in Natal depended on unrestricted access to land, which the creation

of reserves militated against, as evidenced by households‟ bartering of cattle for grain and sending men as labour migrants as survival strategies.

Figure 7. 3: Mean annual rainfall for different climatic regions of Natal



Source: Brookes and Hurwitz (1957)

In as much as colonial policies impacted the traditional agricultural role of land in Natal natural factors also greatly differentiated the agriculture products produced on native Africans and colonial

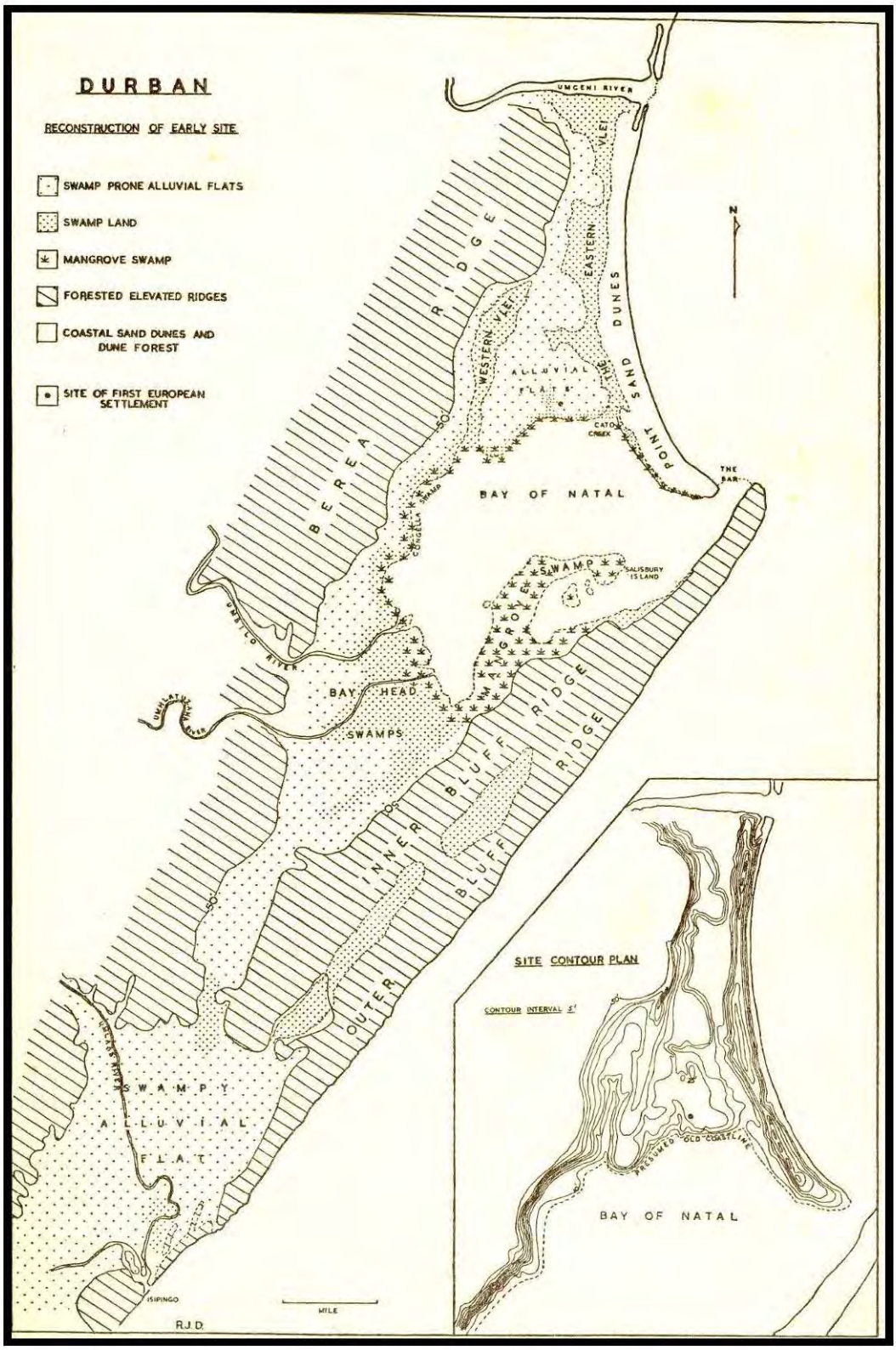
settlers‟ land, as well as among different native African reserves themselves. For instance, the six native reserves in Natal could be classified into five climatic regions which greatly impacted on crop and animal husbandry practices. The climatic regions: the Zululand Coastal Region and Interior; the Tugela Valley; the Natal Coastal Reserves; the Natal Midlands Reserves and the Drakensberg Foothills (Brookes and Hurwitz, 1975). Their varying climatic characteristics are shown in Figure 7.3, which provides the mean annual rainfall for different climatic regions of Natal. According to Brookes and Hurwitz (1957), maize is widely grown in native areas as the crop is able to adapt to various climatic conditions, whilst corn is mostly grown in more arid regions, and root crops in coastal areas. On the other hand, White settler commercial farmers who occupied the coastal belt where climatic conditions are suitable for root crops, engage in sugarcane production.

7.2.2.1 Urbanization and urban growth

Brookes and Hurwitz (1957: 61) also note that the growth of towns concentrated population in such centres as Durban, Pietermaritzburg, Ladysmith, and Newcastle, while the value of the coastal belt for subtropical products and the Midlands for sheep rearing and later wattle and dairy products created zones of European concentration. During this period urban growth within individual urban centres in Natal was the early primate city phase. Davies (1963) notes that the population of Durban increased from 7,938 in 1861 to 115,504 in 1911, with the old Borough witnessing an increase from 4,800 to 67,226 and the extra-Borough region from 3,138 to 48,278.

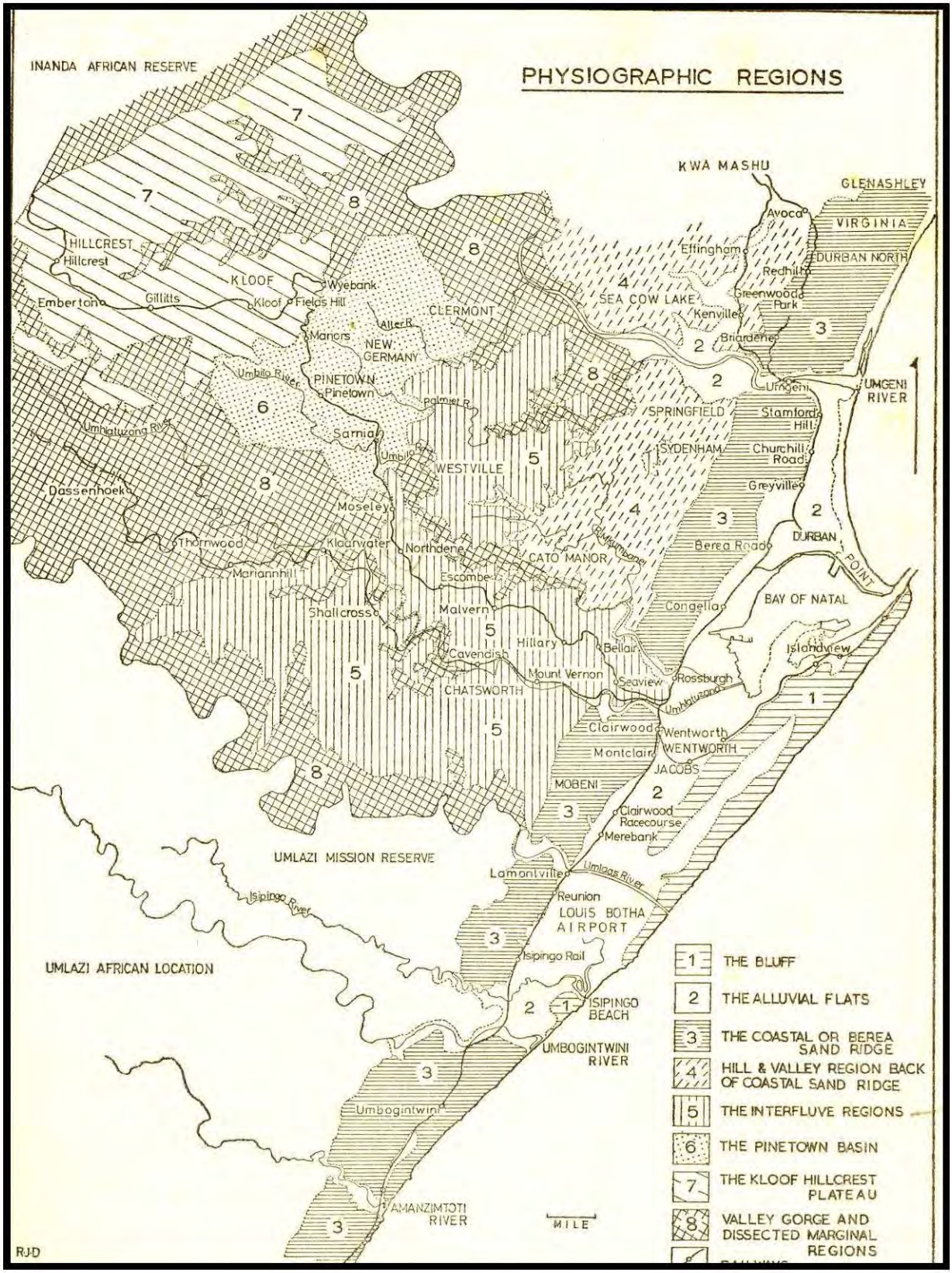
The urban growth patterns of cities were largely influenced by the physical environmental characteristics of its geographical location. For instance, Durban is situated on the Bay of Natal which was originally some seven and half square miles in area, bounded on the north, west and south by extensive, low-lying sand flats which were formerly swampy and ill drained, not exceeding 50 feet in elevation and extending northwards to the Umgeni River and southwards to the Umgeni River (Davies, 1963: 17). The physical characteristics of the site of Durban are shown in Figures 7.4 and 7.5 on the following pages, adopted from Davies (1963).

Figure 7. 4: Durban Reconstruction of the early site



Source: Davies (1963)

Figure 7. 5: Physiograhhic Regions of Durban



Source: Davies (1963)

Urban growth in the city of Durban was stimulated by the British settlers who after their occupation established a fort north of the settlement in 1842, which eventually developed into a 1,200 yard square of ordinance land, squared to a grid iron street pattern at the market square (Davies, 1963: 23; see also Brookfield and Tatham, 1986: 46). According to Davies (*ibid*), with the opening of the Point railway in 1860 and the Umgeni railway in 1867 on the southern and western sides of the square, a central railway station, marshalling yards and an industrial area were developed, in the process blocking the future expansion of the central grid to the north-east. The CBD became rooted in a site on the west of the square. The area is shown in Figure 7.6 on the following page.

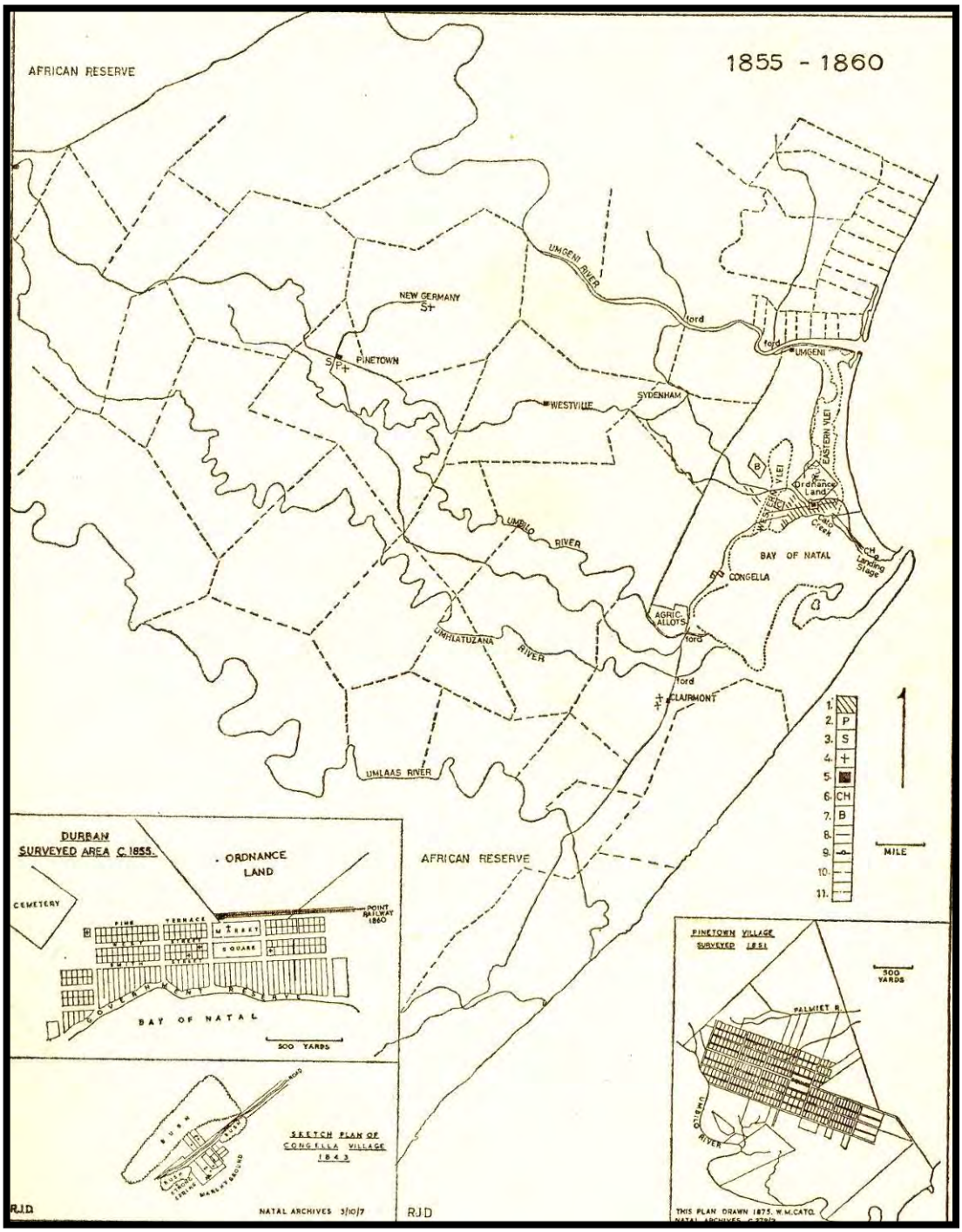
During the period before 1910, the population of Durban was largely concentrated in the built up area around this CBD. It should be noted, however, the seeds of metropolitanisation were sown during this era by the development of outspans along main roads, especially at Westville, Pinetown, Botha"s Hill, Umgeni Drift, Clermont and Isipingo, as well as the demarcation of reserves in the north and south of Durban respectively (Davies, 1963). All these areas are shown in Figure 7.6 on the following page.

Population distribution within urban areas was influenced by policies that differentiated the factors of production along racial lines, namely, Indian, White, and Black. This is exemplified in the cities of Durban and Pietermaritzburg. In Durban, the early settlement of Africans was not controlled; most Africans lived in shacks and hovels and were not residentially segregated (Kuper *et al*, 1958: 30). The only planned accommodation consisted of barracks for male labourers established by the city council and private enterprise and the general policy was to achieve segregation without compulsion by attracting the population to the segregated facilities (*ibid*).

Kuper *et al* note, that initially, in Natal as in the Cape Colony, the approach towards Indian settlement was wholly permissive, as inducements were provided by white settlers to secure their stay after the expiry of their indentures. Kuper *et al* (1958: 26) note that a Natal law of 1859, repealed in 1891, provided that crown lands could be allocated to those immigrants who, on expiry of their indentures, chose to stay; by 1885, either through grants or purchase or lease, roughly 2,000 Indians occupied land within two miles of the Durban boundary as market gardeners or small farmers. However, as the population of Indians swelled due to continued in-migration, the Imperial government became agitated and changed its attitude to one of segregation. Kuper *et al* note that the measures adopted included the Disfranchisement Act of 1896, which abolished the Indian parliamentary vote, the imposition of taxes on Indians who chose to stay after the expiry of their

indentures, restriction of Indian migration besides indentures, and regulation of Indian trade through the appointment of licensing officers. Prior to the Union, White settlers in Natal could not enforce segregation in ownership or residence, although they could restrict Indian trade indirectly through discretionary powers (Kuper *et al*, 1958: 28).

Figure 7. 6: Durban Circa



Source: Davies (1963)

7.2.2.2 Migration

During this period urbanization and urban growth were largely a function of international migration, especially in the case of Europeans and Africans. Brookes and Hurwitz (1957: 83) note that in the early days the Native population failed to meet the labour needs of the European economy as they were unfamiliar with money wages and unwilling to enter into contracts for stipulated periods. They note that, by tradition, the men were fighters, hunters and pastoralists, while women tended the fields and gardens. Brookes and Hurwitz (*ibid*) also highlight that the colonial settlers tried to induce African labour migration by reducing the size of land reserves and the imposition of various taxes to force labor out of the reserves, but this yielded minimum results. Rather, the diamond and gold fields, soil exhaustion and the need for native labour to develop the transportation system drew natives from the reserves. Those Africans who migrated did so in a circular fashion due to insecurity both in towns and in cities. Brookes and Hurwitz (1957: 84) note that, in time, the pressure of taxation and new wants engendered by contact with Europeans also helped to force the Native into accepting wage work, but at the same time the call of the reserve remained strong, and the Natives‟ stay on the mines or in urban areas tended to be temporary.

7.2.3 Morphology

The morphology of the city of Durban during this formative phase can be explained from a Marxist economic determinist perspective, as land use in the city was determined by market relations of mercantile capitalism. According to Davies (1963: 23), in the period before 1910, specifically the period between 1860 and 1910, growth patterns were mainly conditioned by the simple functional symbiosis of trade, the port and residence, by *laissez faire* attitudes to spatial development on the part of official and private bodies and also by changes in population during the periods of Indian migration. An illustration of this pointed to by Davies is the fact that Indian traders were unable to compete for property and trade in the main CBD and ended up erecting their own trading areas and shacks on the northwestern swamp-girt fringes.

7.3 Settlement Patterns and Trends in Natal and Zululand since the formation of the Union up to the peak Apartheid era: 1910 – 1948

7.3.1 Settlement Function and Differentiation

The forces that stimulated the growth of the manufacturing sector in South Africa as a whole were also at work in the Province of Natal during the period 1910-1950. These included the outbreak of the First and Second World Wars (1914-1918 and 1939-1945) and the subsequent need for South Africa to become self-reliant by embarking an import substitution programme. The effect of this on

South African economy and Natal province in particular is that manufacturing sector replaced mining and agriculture as the main sources of economic output. Stanwix (1985: 35) notes that regional output data for Natal for the years 1954/55 show that Natal‟s agriculture was responsible for 15% of the provincial output, mining for 31% and the manufacturing sector for approximately 39 per cent.

The distribution of the manufacturing industry across the province was influenced by factors of production such as sources of raw materials, location of markets, the availability of labour, transport costs and agglomeration economies as elsewhere in South Africa and globally (Stanwix, 1985: 36). As such producers whose inputs were imported located their industries in Durban close to the port; this applies mostly to the chemical, textile, clothing, and motor vehicle manufacturing industries (*ibid*). Kuper *et al* (1958: 44) also note that Durban became home to the ship building industry, handling about 60% of all repairs carried out at Union ports; there was also a growth in service industries that are normally associated with a port such as stevedoring, storage and warehousing, forwarding agencies, brokerage, travel and tourist agencies and railways. Kuper *et al* highlight that this was also linked to the establishment of a new oil refinery and six of South Africa‟s most important fertilizer industries. Tourism during this era was also a major economic activity as the beaches attracted more than 200,000 tourists each year (Kuper *et al*, 1958: 43).

The Second World War also stimulated industrial development in Durban, and the number of both establishments and industrial workers in the Durban-Pinetown metropolitan region increased tremendously (Kuper *et al,* 1958: 48). Davies (1963: 17) notes that economic diversification has been a major feature of the economy of Durban since 1910 as the growth of secondary industry, a large scale holiday and hotel industry, financial institutions, the transport function and large scale development of habour facilities were added to an already important trade function. This is shown in Tables 7.1 and 7.2, adopted from Stanwix (1982).

Table 7. 1: Employment by Economic Sector, 1970

Sector	South Africa		Natal		% of South Africa Sector total
	No.	%	No.	%	
Agriculture	2 482 452	32,9	603 456	42,7	24,3
Mining	680 384	9,0	32 479	2,3	4,8
Manufacturing	1 026 081	13,6	203 017	14,4	19,8
Electricity	46 761	0,6	7 052	0,5	15,1
Construction	475 595	6,3	81 070	5,7	17,0
Commerce	707 901	9,4	124 802	8,8	17,6
Transport	338 249	4,5	68 125	4,8	20,1
Finance	189 934	2,5	27 959	2,0	14,7
Services	1 595 439	21,2	264 078	18,7	16,6
Other unemployed and	7 542 796	100	1 412 038	100	18,7
Not economically active	14 251 132		2 899 159		20,3
Total	21 793 928		4 311 197		19,8

Source: Stanwix (1985: 48)

Table 7. 2: Gross Geographic product, 1975

Sector	Rest of Natal		KwaZulu		% of South Africa Sector total
	No.	%	No.	%	
Agriculture	254 575	7,5	52 064	28,8	24,3
Mining	71 859	2,1	702	0,4	4,8
Manufacturing	1 015 972	29,8	17 728	9,8	19,8
Electricity, gas and water	82 974	2,4	10	0,01	15,1
Construction	264 576	7,8	13 482	7,4	17,0
Commerce, catering, accommodation	471 275	13,8	12 982	7,2	17,6
Transport, storage, communication	446 891	13,1	7 271	4,0	20,1
Finance, real estate, business services	396 971	11,6	15 258	8,4	14,7
Community, social, personal services	52 714	1,5	38 338	21,2	21,2
General government	302 788	8,9	23 142	12,8	12,8
Other producers	99 651	2,9			
Less: imputed financial services	50 512				
Total	3 409 734	100	180 977	100	

Source: Department of Statistics Report 09.14.04 and 09.17.03, cited in Stanwix (1985: 52)

7.3.2 Population

The total population of Natal during the period in question is shown in Table 7.3 below, adopted from Spies (1986). According to Spies (*ibid*) it should be noted that figures for 1970 and 1960 represent a significant degree of under-enumeration for the Black population and therefore the „growth rates on the part of Black population between 1940 and 1980 can be attributed to more complete enumeration in 1980". Nevertheless, from the table it can be discerned that the population of Natal and KwaZulu multiplied 5.5 times from 1,100,000 persons in 1904 to almost 6,100,000 persons in 1980. Spies also notes that growth rates for Blacks and Indians, could largely be attributed to natural increase whilst for the Whites they could be attributed to high rates of immigration.

Table 7. 3: The population of Natal/KwaZulu and South Africa, 1904 -1980

Year	Area	Total Population '000	Whites '000	Coloureds '000	Asians/Indians '000	Blacks '000
1904	Natal/KwaZulu	1109	97	7	101	904
	South Africa	5174	1117	445	122	3490
1911	Natal/KwaZulu	1194	98	9	134	953
	South Africa	5972	1276	525	152	4019
1921	Natal/KwaZulu	1430	137	11	142	1140
	South Africa	6929	1519	546	166	4698
1936	Natal/KwaZulu	1948	191	19	184	1554
	South Africa	9591	2004	770	220	6597
1946	Natal/KwaZulu	2202	237	25	232	1708
	South Africa	11418	2373	928	285	7832
1960	Natal/KwaZulu	2978	337	46	396	2199
	South Africa	16002	3088	1509	447	10928
1970	Natal/KwaZulu	4310	443	68	524	3275
	South Africa	21794	3773	2051	630	15340
1980	Natal/KwaZulu	6098	566	94	672	4766
	South Africa	28591	4528	2613	821	20629

Source: Grobelaar, J.A. 1983. Projections and analysis of South African Population. Stellenbosch: Institute for Futures Research and South Africa. Central Statistical Services. 1982. Republic of South Africa Population Census 1980. Report No 02-80-02, Sample tabulation: social characteristics. Pretoria: Government Printer cited in Spies (1986: 29).

Population distribution during this period was greatly impacted by 19th century policies that created separate areas for Blacks in the four provinces of the country. After the union of the provinces, the government passed the Natives Land Act, No. 27 of 1913 which was designed to enforce territorial segregation in rural areas (Kuper *et al*, 1958: 24). The schedule of land accompanying the Act was based on the existing reserves and in Natal province, 15% of the land was set aside for natives (Harley and Fotheringham, 1999: 13). This is shown in Figure 7.2, adopted from Stanwix (1985). According to the Act, Black people on White farms could only stay as long as they were farm labourers or labour tenants, putting an end to cash tenancy and share cropping (*ibid*). The 1913 Land Act was amended by the 1936 Native Trust and Land Act which sought to add more land to the areas scheduled for reserves in 1913, with the net effect of increasing all land scheduled for reserves to 13%.

Most of Natal‟s Native population was found in its Native reserves, although a large proportion (34%) was also found in urban and farming communities (Brookes and Hurwitz, 1957: 65). There were also relatively high birth rates among Zulu women in reserves; Brookes and Hurwitz (1957: 66) note from Barker‟s survey that there was an average of 6.2 children per woman in the Nqutu district; however, there were also high child mortality rates; 20.8% of children died before they could walk.

The age groups in rural reserve in Natal reveal striking similarities with the European population figures, namely: low levels of man in the 20-44 age group due to the migration of able-bodied males; a much higher proportion of young people, especially in the 0-14 group, which reflects a high birth

rate; a lower proportion of old people in the 60-and-over age group, which indicates a high mortality rate; and a high proportion of young females of reproductive age, which increases the favourable position of the younger age group (Brookes and Hurwitz, 1957: 68). The trends are revealed in Table 7.4 below.

Table 7. 4: Age Groups of Rural Natives in Natal, 1946

Age group	Masculinity	Males		Females	
		Numbers	%	Numbers	%
0 - 4	98	104,512	15	112,234	14
	101	111,477	16	110,195	13
	105	110,086	16	104,530	13
	87	74,303	11	85,438	10
	63	42,491	6	67,360	8
	68	39,275	6	57,475	7
	66	32,608	5	49,582	6
	73	30,564	5	42,123	5
	71	31,100	5	43,879	5
	82	28,181	4	34,476	4
	75	21,446	3	28,716	4
	86	15,520	2	18,141	2
	67	14,297	2	21,482	3
	78	11,376	2	14,620	2
	64	16,117	2	25,313	4
		683,481		815,434	

U.G. 60 of 1950. Source: Brookes and Hurwitz (1957: 68)

In general it should be noted that the Black population was also characterized by high levels of poverty. By restricting the right of Africans to own land outside the reserves and putting an end to Blacks staying on White commercial farms, the 1913 Land Act pushed Africans into the already overcrowded reserves (Harley and Fotheringham, 1999). In bringing a halt to cash tenancy and share cropping by Blacks on White commercial farms the Act also destroyed the livelihoods of a significant number of Blacks and perpetuated the poverty already prevalent in the native reserves.

7.3.2.1 Urban growth and urbanization within the province

Urban growth and urbanization trends during this period were influenced by the administrative boundaries created in order to restrict the movement and distribution of the Black population in the Union of South Africa as a way of protecting White interests. These included the 1923 Native (Urban Areas) Act which provided for the provision of African residences in segregated neighborhoods, the 1927 Native Administrative Act which placed tribal authorities under White control, the 1934 Slums

Clearance Act which stipulated housing standards in terms of formal or formal and called for the destruction of the latter, the 1937 Native Laws Amendment Act which denied Africans the right to own property in urban areas and the 1945 Black (Urban Areas) Consolidation Act which repealed the 1923 Native (Urban Areas) Act and sought to entrench the residential segregation of Africans in urban areas (Human Awareness Programme, 1989, C3, cited in Harley and Fotheringham, 1999: 26).

When the Union of South Africa was formed, the determination of Indian settlement in SA was bequeathed to the Union Government which immediately sought to limit this population by restricting immigration and encouraging repatriation (Kuper *et al*, 1958: 28). However, Kuper *et al* highlight that the South African government was never in a position to accede to the demands of Europeans for compulsory repatriation, and assisted repatriation was not sufficient to significantly reduce the Indian population. The government succumbed to pressure from Europeans regarding the acquisition of property by Indians in White residential areas by introducing the Pegging Acts for Transvaal and Natal whose aim was maintaining the existing distribution of property between Indians and Whites; this was followed by the Asiatic Land Tenure and Indian Representation Act which demarcated areas outside which no Asiatic might own or acquire land or property from Non-Asiatic people.

A significant development in the province was the metropolitanisation of urban centres especially Durban. Between 1910 and 1950 sprawl and the growth of Durban into a complex metropolitan area was the result of economic diversification and a concomitant population increase (Davies, 1963; Brookfield and Tatham, 1968). The total population of the metropolitan area of Durban in 1960 was 591,000 of whom 172,800 were Europeans, 188,800 Natives, 205,700 Asiatics, and 23,700 Coloureds (Brookfield and Tatham, 1968: 46). It should be noted that between 1911 and 1951 the population of the Old Borough increased at an annual compounded rate of 2.5%, while that of the added areas zone increased by 5.1%, the outer sub-centres by 3.7% and the rural-urban fringe by 5.4% (Davies, 1963: 27). This is a significant sign of suburbanization.

The contribution of the main racial groups to urbanization and urban growth in the province varied considerably in line with their demographic characteristics. The increase in the White racial group was largely due to immigration, as their rates of natural increase were considerably low. Brookfield and Tatham (1968) note that in 1960, only 42,49% of European males and 42,32% of females were

born in Natal, respectively; 32.18% and 33.14% were born elsewhere in the Union and 17.41% and 16.92% in the UK. The child to woman ratio for the White race was 428.72 (*ibid).*

The Indian racial group‟s contribution to urbanization and urban growth from 1910 was as a result of natural increase and also to some degree rural-urban migration within the province of Natal. Indian immigration was barred after the formation of the Union. Brookfield and Tatham (1968) note that 94% of Indian males and 95.28% of females were born in the province in 1960. They also note that 76% of Coloureds were born in Natal as a result of miscegenation between English and Bantu in the first half of the century; this group had peculiar demographic characteristics in that they had both low birth and mortality rates.

While many natives are drawn to the Natal coal mines, but very few appear to have come from Natal and Zululand. According to the Native commissioner of Vryheid only 2,332 Natives from Natal and Zululand were employed in the coal mines in his area in 1953. Durban, the largest urban area of Natal attracted a large numbers of Natives from the Reserve and non-Reserve areas of Natal, as well as from outside the region (Brookes and Hurwitz, 1957: 93). This is shown in Table 7.5 below.

Table 7. 5: Distribution of Native population

Area	1936	1946
Reserves	904,000 (58.1%)	957,000 (56.0%)
Rural areas	522, 000 (33.6%)	542,000 (31.7%)
Urban areas	128,000(8.3%)	210,000 (12.3%)
Totals	1,554,000	1,709,000

Sources: Union population censuses. Cited in Brookes and Hurwitz (1957: 69)

In line with the goal of segregating the population of rural areas along racial lines given effect by the Land Act of 1913, the Natives (Urban Areas) Act, No. 21 of 1923 also provided the machinery for segregation in locations and villages within towns (Kuper *et al*, 1958: 24). The amendment of this Act in 1935 disqualified Africans from acquiring property from other races in cities and townships; in addition, the Governor-General was given the power to declare that all Africans should reside in a separate village, location or hostel, although servants and domestic servants were exempt from this rule.

Kuper *et al* (1958: 30) note that it was only in 1916 that the Mayor of the city referred to the framing of by-laws under which penalties could be imposed on Africans who stayed in unauthorized places and against those who connived with them. According to Kuper *et al* a Women‟s Hostel was opened in 1912 and from 1927 onwards, the council started developing family houses in segregated neighborhoods.

By the end of this period the distribution of the African population in Durban had assumed a clear pattern: male labourers stayed in barracks or compounds close to industrial or commercial areas; families in shacks municipal locations on the outskirts of the city segregated from Europeans, and domestic male and female servants in the backyards of European and to a lesser extent Indian homes (Kuper *et al,* 1958: 31).

The Coloured population, which was less than 4% of the total population of the city of Durban was free to occupy property in any part of the city, save for areas strictly reserved for Whites (Kuper, 1958). Kuper *et al* (1950: 29) note that the unwillingness of provinces to share the Indian population is illustrated by legal restrictions against inter-provincial movement and resulted in the concentration of Indians in the province of Natal. Kuper note that in entire Union of South Africa there were 366,664 Indians (2.9% of the total population); Indians made up 12.4% of the population of Natal and 43.8 % of this population lived in Durban and within adjacent municipal boundaries. Kuper *et al* highlight that Europeans" feared competition for trade, land and wealth from Indians. Their concern was not with indentured laborers, but with those referred to as „passenger" Indians, who came to the province to trade. This fear was a direct cause of the passing of the Group Areas Act. By the end of this era the population of Durban was made up of almost equal proportions of Europeans, Indians, and Africans and the residential distribution of races was partly concentric, partly radial, and partly mixed (Kuper *et al*, 1958).

Services occupied the largest group of the city"s working population (60.39%), followed by industry (34.21%) and commerce and transport at 15.9% and 10.45% respectively (Kuper *et al,* 1958: 45). Ownership of immovable property by Africans in cities during this period was very insignificant; in 1952 the Technical Sub-Committee on Race Zoning noted that Africans owned property to the value of 112,180 pounds covering less than 105 acres which was less than 0.1 % of the value of property in the city of Durban (Kuper *et al*, 1958: 31).

The development of council housing for Africans failed to keep pace with their rate of urbanization and most African families settled in shack dwellings separated from the European population (Kuper *et al*, 1958: 31). Urbanization created overcrowded slum conditions, prompting the government to introduce legislation like the Blacks (Urban Areas) Consolidation Act (Harley and Fotheringham, 1999), which nevertheless had little effect on slum conditions, as blacks erected shacks on the peripheries of cities such as Durban due to the poverty in the reserves (Brookes and Hurwitz, 1957).

Rural-urban migration from the reserves by Africans was a major contributor to urbanization and urban growth. Brookes and Hurwitz, (1957: 84) highlight that the increase in the population in the reserves outstripped food production; a situation worsened by poor farming practices such as mono-cropping and the unscientific use of soil and veld, which led not only to poor yields and malnutrition, but greater dependence on money incomes. It should also be noted that labour migration by natives assumed a largely circular pattern due to insecurity in both the reserves and towns. Brookes and Hurwitz (1957: 84) note that the shift to an exchange economy with an active labour market, in which the Native participated only as a worker, necessarily gave rise to a system of migrant labour on a large and increasing scale.

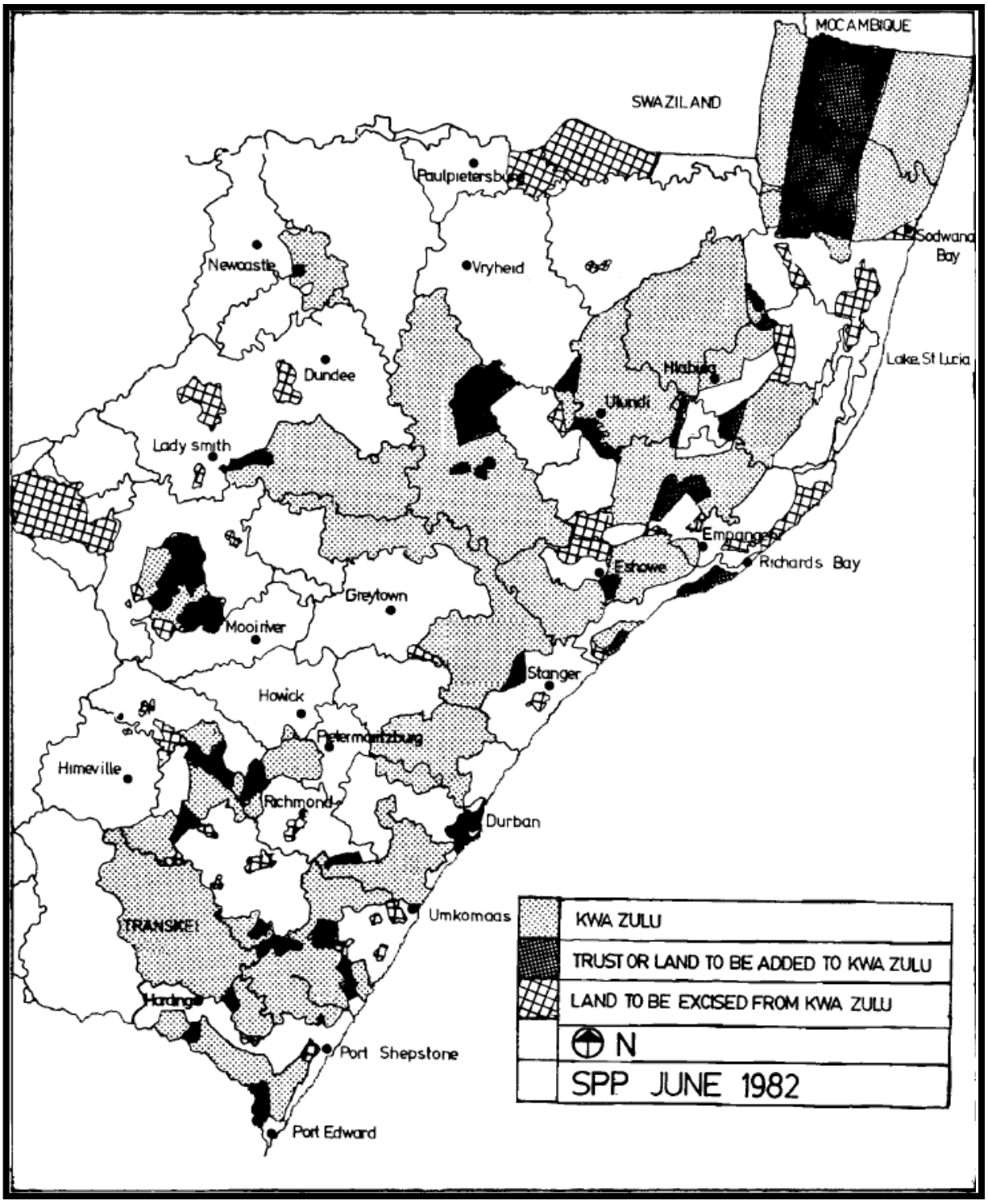
The spatial structure of cities during this period reflected racial segregationist policies. In the city of Durban, for instance, the structure revealed the tug of war between Indian and White merchants. The CBD was made up of dual spaces, with the Indian CBD occupying approximately 60% of the central grid, to form a broadly rectangular core extending north from the western end of the European CBD (Davies, 1963: 23).

7.4 Peak Apartheid Era to the end of Apartheid in 1994

7.4.1 Settlement Function and Differentiation

Institutionalized segregation in the province of Natal, as in other provinces emerged with the shift from voluntary to compulsory segregation when the National Party took power in 1948. To enforce the ideology of separate development, a homeland for Africans was promulgated in Natal, consisting of ten parcels of land as shown in Figure 7.7 on the following page. The boundaries of the native territory were „carefully drawn to exclude all the major industrial areas of the province and to keep with the limits of the land area laid down by the 1936 Development Trust and Land Act" (SPP, 1983: 147, *cited in* Harley and Fortheringham, 1999). Natives who found themselves outside the homeland boundaries and who were not serving White labour interests were forcibly removed.

Figure 7. 7: Government's 1975 consolidation proposals for Natal



Source: SPP 1983, p.146 (cited in Harley and Fotheringham, 1999: 35)

The categories of Africans forcibly removed to enforce separate development are shown in Table 7.6 below. Black spot removals entailed the removal of Africans who had freehold title to land outside

the areas provided for in the Native Land Acts of 1913 and 1936; farm removals mostly targeted labour tenants; homeland consolidation removals were a result of attempts to make homelands continuous geographic entities; urban relocations were mostly a result of eradicating squatter settlements; infrastructural removals were a result of developmental projects and urban Groups Areas removals constituted the forced removal of Africans who found themselves outside the areas allocated to them after the division of the city along racial lines in line with the Group Areas Act of 1950.

Those who were removed were relocated to different types of settlements, namely, closer settlements such as Limehill and Mondlo; trust villages which were part of settlement schemes located throughout KwaZulu; agricultural settlements such as Impendle; transit camps and emergency camps as Weenen (Harley and Fotheringham, 1999: 44).

Table 7. 6: Estimated number of removals in Natal, 1948-1982

Categories of removal	Moved	Under threat
Black spot removals from freehold or church-owned lands to African reserves	105 000 109 African freehold families 14 missions	245 000 189 African areas 13 missions
Farm removals from white owned farm land	300 000	
Homeland consolidation to link broken pieces of homeland territory	10 000 Reserve 6 part of reserve 4	300 000 Reduction of 48 scheduled and released reserve areas to 10
Urban relocation through abolition of townships and elimination of squatter camps	17 000 Dannhauser, Estcourt, Umlazi, Glebe, Harding, Howick, Ladysmith, Margate, Newcastle, Utrecht	61 000 Cedarville, Chesterville, Colenso, Dannhauser Emergency Camp, Dundee, Glencoe, Greytown, Howick, Ladysmith, Mooi River, Paulpietersburg, Klaarwater, Stanger, Umzinto, Vryheid, Weenen Emergency Camp
Infrastructural to make way for dams and game reserves	15 000	
Strategic as part of the defence strategy	3500	
Sub-total	450 000	606 000+
Group Areas Act	295 000	
Total	745 500	**606 000+**

Source: SPP, 1983, p.53; Human Awareness Programme, 1989, C10 cited in Harley and Fotheringham (1999: 38)

Stanwix (1985: 35) notes that by 1970 the economy of Natal had undergone structural transformation similar to that experienced at the national level, as shown by the fact that agriculture contributed only 8%, manufacturing 40% and the tertiary sector 40% of the total output value. This shown in Table 7.7, adopted from Stanwix (1985) below. Stanwix points to the following reasons for this situation: import substitution, demand arising from the expanding mining sector due to the opening of the Free State gold fields in the 1950s, and rising levels of *per capita* income especially that of the Whites

that stimulated the demand for tourist activities focusing on Durban, the South coast and the Drakensberg resorts and mountain range.

Table 7. 7: Natal Gross Geographic Product (at Current prices)

Sector	1954/55		1959/60		1970		1975	
	R'000	%	R'000	%	R'000	%	R'000	%
Agriculture, forestry, fishing,	72 740	15,4	73 364	11,9	126 038	7,9	306 639	8,4
Mining, quarrying	8 812	1,9	14 259	2,3	28 519	1,8	72 561	2,0
Manufacturing, construction, electricity	146 363	30,9	203 863	33,0	638 666	40,0	1 394 742	38,8
Transport, storage, communication	58 936	12,4	77 765	12,6	191 986	12,0	454 162	12,6
Commerce, catering, accommodation	64 087	13,5	75 315	12,2	232 965	14,6	484 257	13,5
Finance, real estate	9 212	1,9	12 961	2,1	159 218	10,0	412 229	11,5
Home ownership	15 696	3,3	23 788	3,9				
Community, social, personal services	41 693	8,8	60 319	9,8	49 778	3,1	91 052	2,5
General government	55 851	11,8	77 131	12,5	146 926	9,2	325 930	9,1
Other producers					49 948	3,1	99 651	2,8
Less: imported financial sources					26 407		50 512	
Total	473 390	100	617 113	100	1 597 637	100	3 590 711	100

Source: Department of Statistics Report 09.14.03 plus tables for 1954/55 and 1959/60 cited in Stanwix (1985: 46)

From Table 7.8 below, Stanwix (1985) notes that service activities provided the most employment (21.2%), followed by manufacturing (19.3%) and agriculture (16.5%). This structure was broadly similar to South Africa as a whole, although mining was of less significance in Natal (*ibid*). Furthermore, from Table 7.8, Stanwix highlights that Natal shows a significantly high level of employment compared with the rest of South Africa.

Table 7. 8: Employment by Economic Sector, 1980

Sector	South Africa (a)		Natal (b)		% of South Africa Sector total
	No.	%	No.	%	
Agriculture	1 299 840	15,0	265 760	16,5	24,3
Mining	820 300	9,5	46 920	2,9	4,8
Manufacturing	1 456 760	16,8	310 320	19,2	19,8
Electricity	79 240	0,9	10 800	0,7	15,1
Construction	452 440	5,2	73 420	4,5	17,0
Commerce	1 008 340	11,6	193 080	12,0	17,6
Transport	424 040	4,9	89 740	5,6	20,1
Finance	285 840	3,3	44 380	2,7	14,7
Services	1 986 240	22,9	345 580	21,4	16,6
Other and unemployed	852 660	9,8	235 520	14,6	18,7
Total EA	8 665 700	100,0	1 615 520	100,00	100,0
Not Economically Active (c)	16 220 260		4 482 690		19,8
Total	24 885 960		6 098 480		

Notes: (a) South Africa excludes Transkei, Bophuthatswana, Ciskei and Venda. (b) Natal includes KwaZulu

Source: C.S.S 1980 Population Census Report No. 02.80.03 cited in Stanwix (1985: 50)

The spatial distribution of Natal‟s economic activity reflected the influence of factors of production such as labour, transportation and natural resources as well as apartheid policies that differentiated public and private investment along the racialized system of territorial segregation. As such, there was striking concentration of economic activities in the Durban-Pietermaritzburg area. From 1951,

the expansion of manufacturing industry continued in the Durban-Pinetown area as illustrated by the fact that in 1951 there were 1,458 factories in Durban and 95 in Pinetown, compared with a combined total of 1,161 in 1949-50 (Davies and McCarthy, 1984: 14).

Davies and McCarthy (1984: 14) note that in the Durban-Pietermaritzburg area the Gross Domestic Product (excluding Agriculture, Forestry and Fishing) increased by of 2.4% in the period between 1960 and 1970, rising from R412,724 million to R1,423,229 million, with the biggest contribution coming from the secondary and tertiary sectors which contributed 44% and 55% respectively. It should be noted however, that between 1960 and 1970, the Durban Metropolitan Area contributed approximately 82% of the Regional GDP as shown in Table 7.9 below, and also generated 80% of White employment, between 75 and 76% of Asiatic employment and approximately 80% of African employment (*ibid*).

Table 7. 9: Percentage Share of GDP Growth by Region, 1960-1970

Region	G.D.P Growth	% Share
Durban Metropolitan Area	R838 059 million	82,4%
Pietermaritzburg Metropolitan area	R121 250 million	12,0%
North Coast	R 30 813 million	3,1%
Durban-Pietermaritzburg Corridor	R 15 818 million	1,6%
Midlands	R 9 565 million	0,9%

Source: Davies and McCarthy (1984: 16)

Likewise, the spatial distribution of manufacturing in Natal during the apartheid era was polarized, with the Durban-Pietermaritzburg Metropolitan complex alone contributing 80.3% of the provincial output (Stanwix, 1985: 72). The same applies to the skewed contribution of the region to provincial employment in the manufacturing sector as reflected in Table 7.10 on the following page, adopted from Stanwix (1985: 74). Stanwix (*ibid*) highlights that the manufacturing centres outside the Durban-Pietermaritzburg areas, including Umzinto, Lower Tugela, and Lower Umfolozi focused on sugar milling, timber and paper processing.

Table 7. 10: Manufacturing Sector Employment, 1976

District	No.	%
Durban	141 250	49,2
Pinetown	36 473	12,7
Pietermaritzburg	20 456	7,1
Newcastle	17 254	6,0
Camperdown	8 323	2,9
Inanda	8 044	2,8
Klipriver	7 734	2,7
Umzinto	5 818	2,0
Lower Umfolozi	5 659	2,0
Lower Tugela	4 630	1,5
Mtunzini	3 854	1,3
New Hanover	3 574	1,2
Estcourt	3 523	1,2
Port Shepstone	3 011	1,0
KwaZulu	2 829	1,0
Umvoti	2 099	1,0
Rest of Natal	13 101	0,7
Natal Total	287 362	4,6
South Africa	1 355 204	100
Natal as a percentage of SA		21,21

Source: Census of Manufacturing 1976, 10.21.33, cited in Stanwix (1985: 74)

In as much as the distorted distribution of industry is a reflection of natural economic forces such as dependence on imported raw materials and agglomeration economies in the case of those located in the Durban city and agriculture-related industrial activity such as wattle, sugar-cane and coal mining and related iron and steel industries in Northern KZN, government policies also played a role in spatial disparities in the location of manufacturing activity across Natal and KwaZulu. Apartheid government industrial decentralization policies greatly influenced the spatial distribution of industries in the province. In line with the doctrine of separate development, border industry policy sought to locate industrial activity, mostly manufacturing, in selected areas adjacent to the Bantustans. Growth points within homelands themselves were also selected, where industries were encouraged to locate. However, Stanwix (1985) notes that the incentives that were offered to entice industry were not sufficiently attractive and there were too many decentralized locations; furthermore, many did not present economic advantages. As a result, these policies had limited success. In the late apartheid era, the decentralization policies were revised to focus specifically on areas with growth potential. The number of growth points was reduced and a capital extension was provided for firms already operating in the targeted growth points.

Stanwix (1985: 77) notes that although industrial decentralization policies left their mark on the space economy of Natal, such as the industrial growth in Hammarsdale, where textile firms relocated as well as Isithebe where approximately 7,000 jobs by some 60 firms that were established, the policy left a lot to be desired in terms of challenging the dominance of Durban-Pietermaritzburg Metropolitan.

Factors of production, in particular labour were also differentiated along racial lines. Kuper *et al* (1958: 21) note that the government of South Africa introduced racial segregation legislation based on the theory that the customs of people of different races are incompatible, and that harmonious relations could only by secured by reducing points of contact to the minimum. They highlight this was the basis for the planning of Durban.

Kuper *et al* (1958: 29) note that Asiatic Land Tenure Act was a general provision for the compulsory segregation of Indians throughout Natal, but it did not deprive Indians of their right to retain fixed assets acquired over the years of settlement. However, the Group Areas Act gave government the power to rearrange areas of Indian residence, ownership and trade along segegationalist lines (*ibid*). During this period the Private Townships Board and the Town and Regional Planning Commission were the two bodies in Natal responsible for investigating and making recommendations to support or not support all applications for land subdivision beyond the boundaries of the Cities of Durban and Pietermaritzburg (Davies and McCarthy, 1984: 10).

7.4.2 The population of Natal and KwaZulu during the peak-Apartheid Period

The spatial distribution in the province of KwaZulu-Natal during this period largely reflected the Bantu Self-Government Act in rural areas and the Group Areas Act in urban areas. Forced removals provided the basis for the creation of discrete African rural settlements. African people were resettled in areas without proper sanitary arrangements, which resulted in the outbreak of water borne diseases. For example, in the case of people who were moved from Besterspruit on the outskirts of Vryheid, to Mondlo, a „closer settlement" 23 km from the town, „Ten months later one third of Mondlo"s population of 4000 was still housed in the green bell tents and the „healthy camp life" included such benefits such as typhoid, diphtheria, Kwashiorkor and pellagra" (Aitchison, 1964: 2 (John Aitchison Papers, APC cited in Harley and Fotheringham, 1999: 45). Removals also destroyed people"s secure livelihoods especially for those who stayed in Black spots at the same removing any sense of dignity and self esteem they once held (*ibid*).

In rural areas population distribution was differentiated along racial lines, with Natal consisting of sparsely populated commercial farming areas while KwaZulu contained densely populated subsistence farming areas. Stanwix (1985: 79) notes that in 1980, rural Natal excluding KwaZulu, had a population of 1,065,977 (all races); White-owned farmland covered 5,035 00 ha occupied by 8,635 farming units averaging 576 ha, employing approximately181,060 African workers out of at total of 199,160 mostly producing sugar, timber and horticultural crops. This was in contrast to the

homeland of KwaZulu, which Stanwix (*ibid*) notes consisted of approximately 3,3 million hectares of land, and was home to a rural population of 2,489,291 comprising approximately 400,000 families, with an average of 8,25 ha per family; it was estimated that 20% of this population were commercial farmers and the remainder subsistence farmers.

During the apartheid era, one of the key economic characteristics of this region was endemic poverty. Stanwix (1985: 119) notes that 77% per cent of the population was African and that 55% of the Africans in KwaZulu survived on an average *per capita* income of R37 in 1970. This could be viewed as absolute poverty or terms of income disparities between KwaZulu and the rest of Natal, unemployment, lack of infrastructure, low agriculture productivity in KwaZulu and the spatial concentration of secondary activity in the Durban Metropolitan area (*ibid*).

It should also be noted that population distribution, especially White, Asian and Coloured, reflected the distribution of economic activity. Between 1960 and 1970 the Durban-Pietermaritzburg area contained 82% of the White, Coloured and Asian population and this area‟s percentage share of total population growth in the region between 1960 and 1970 was 82% (Davies and McCarthy, 1984: 16).

7.4.2.1 Urbanization and urban growth

Official urbanization and urban growth dynamics during the apartheid era from 1948 to roughly 1980 were mediated through apartheid administrative boundaries given effect by the Bantu Self Governing Act, the Group Areas and influx control legislation. The apartheid administrative boundaries failed to capture the magnitude and implications of urban growth and urbanization in the region in as much as they acknowledged the role of the Durban-Pietermaritzburg metropolitan area as the core in Natal province. The boundaries only alluded to the influence of the metropolitan economy on the surrounding White community and did not capture the functional interdependence between the Durban-Pietermaritzburg metropolitan area and Black local authorities and the African reserves. Stanwix (1985) argues that in the context of a nodal region, the influence of a node is mediated through the institutional and administrative infrastructure which conforms to provincial boundaries. Accordingly Stanwix (1985: 100) argues that most of the homeland administrative boundaries that were drawn do not reflect economic boundaries as they were artificially imposed for political reasons rather than evolving organically as political boundaries.

Administratively, the Durban-Pietermaritzburg Metropolitan Area could be disaggregated into the following components, namely, the Durban Metropolitan Area (Borough of Durban forming the central parent city, and the surrounding Durban suburbs), the Durban-Pietermaritzburg Corridor, the

Midlands area and the North Coast (Davies and McCarthy, 1984). The local authorities in terms of the five regional sub-components of the Durban-Pietermaritzburg Metropolitan Region during the peak apartheid era are shown in Table 7.11 below. Ideally a metropolitan area should incorporate all areas of residence, as well as industrial, commercial or service activities which are part of the urban economy (Stanwix, 1985: 102). The Durban-Pietermaritzburg Metropolitan Region, although functionally linked to magisterial districts of New Hanover, Ndwedwe, and Umlazi-Umbumbulu only included the white administrative districts of Durban, Pinetown, Camperdown, Pietermaritzburg, Lions River, Inanda and Lower Tugela (Davies and McCarthy (1984). Davies and McCarthy (1984) note that it excluded the Black townships of Umbumbulu and Ndwedwe, an inadequacy which the 1980 census attempted to address by including these areas in the definition of the Durban metropolitan area. Thus, the apartheid administrative boundaries failed to sufficiently capture urbanization and urban growth in the province.

Furthermore, it should be noted that disaggregating the province of Natal into core and peripheries, with the Durban-Pietermaritzburg Metropolitan area being the core because of its economic dominance which is surrounded by a hinterland obfuscates the existence of subregional centres within the hinterland. As such, it failed to capture the existence of small intermediate towns in the hinterland of the area.

Stanwix (1985: 105) points to a study by Davies and Cook (1966) who compiled a hierarchy of urban centres in the province of Natal based on service centre functions. After Durban and Pietermaritzburg they identified Ladysmith, Dundee, Port Shepstone, Estcourt, Stanger, Newcastle, Empangeni, Kokstad, Vryheid, Greytown and Margate in order of importance. However, Stanwix (1985) argues that whilst this framework is useful, it does not take into account other factors that determine a centre‟s regional importance such as transportation networks, the volume of goods and economic activity, population distribution and natural resources. Thus, in his classification of regional centre importance, Stanwix (1985) ranks Newcastle and Empangeni-Richards Bay after considering basic locational constants, economic advantage and public sector interventions such as infrastructure provision which are essential in influencing regional economic growth.

Table 7. 11: Local Authorities in the Five Regional Sub-components of the Study Area

A DURBAN METROPOLITAN AREA	
1. Durban	14. Kloof
2. Pinetown	15. Hillcrest
3. Westville	16. New Germany
4. Queenburgh	17. Gillitts - Emberton
5. Amanzimtoti	18. Botha's Hill
6. Umbogintwini	19. Everton
7. Isipingo	20. Crestholme
8. Illovo	22. Glen Anil
9. Kingsburg	23. Shallcross
10. Glenashley	24. Duffs Road
11. Yellow Wood Park	25. Newlands
12. Umhlanga Rocks	
13. La Lucia	
B PIETERMARITZBURG	
1. Pietermaritzburg	4. Sweetwaters
2. Hilton	5. Lincoln Meade
3. Cleland	6. Winterskloof
C NORTH COAST	
1. Stanger	9. Blythedale
2. Tongaat	10. Shakas Rock
3. Ballitoville	11. Verulam
4.Umdloti	12. Zinkwazi
5.Darnall	13. Tugela
6. Tongaat Beach	14. Ottawa
7. Salt Rock	15. Shakas Kraal
8. Canelands	16. Mt. Edgecombe
D DURBAN PIETERMARITZBURG CORRIDOR	
1. Cato Ridge	4. Drummond
2. Assagay	5. Camperdown
3. Ashburton	6. Cliffdale
E MIDLANDS	
1. Howick	5. Cedara
2. Merrivale	6. Lidgetton
3. Midmar	7. Fort Nottingham
4. Albert Falls	

Source: Davies and McCarthy (1984: 15)

Davies and McCarthy (1984: 9) note that the 1960s witnessed a boom in the property market in South Africa characterized by frenetic land development and associated property construction. They note that almost 70,000 lots were newly subdivided and consolidated in the Durban Municipality in response to applications from land owners and property developers; this was also the case in the suburban and peri-urban local authorities surrounding Durban where sub-division associated with speculative property developers was rife.

7.4. 3 Morphology

Kuper *et al* (1958: 23) note that as a result of the Group Areas Act Durban was planned for total residential segregation and the complete avoidance of contact between people of different races based on a Technical Sub-Committee of the City Council which was appointed on 20 November 1950. This committee proposed a pattern of development based on segregated residential ribs or spokes, extending, in the shape of a fan, from the industrial and central business district. Since the population of Durban was partially mixed by 1950, the implementation of these plans entailed moving the population. According to Davies and McCarthy (1984: 34) almost half of the population in the city of Durban was forced to relocate in order to accommodate the provisions of the Group Areas Act. The patterns of relocation comprised state assisted suburban housing estates for Coloureds and Asians (*ibid*).

This spatial structure could be explained in terms of the urban managerializm paradigm. Davies and McCarthy (1984) note that the South African government‟s interventions had a number of direct and indirect effects on metropolitan land use and development. In the case of Durban they note that most of the houses and flats constructed in the period 1960-1970 were an outcome of state assisted and initiated low income housing projects in the same way that residential land subdivision, consolidation and the demolition of buildings were state engineered. According to Davies and McCarthy (1984: 34), zones of institutional suburbanization and zones of institutional redevelopment exist alongside patterns of residential growth generated by the private market in South African cities.

7.5 Post-Apartheid Era KwaZulu-Natal Settlement Patterns and Trends

Since 1994, settlement patterns and trends in the post-apartheid province of KZN have been influenced largely by the democratic principles adopted by ANC-led government, whose key aim is reversing the negative consequences of apartheid settlement planning and policies. When the ANC-led government took power it adopted an interim constitution which was superseded by the final

constitution in 1997. Central to the new constitution is a non-racial society which promotes the social, economic and political rights of all citizens of the Republic of South Africa (RSA).

The democratic dispensation was heralded by the redrawing of apartheid political boundaries which had differentiated SA along racial lines to mediate the social, political and economic relations of a new non-racial society. As a compromise, and at the National Party during the negotiated settlement, a federalist approach was adopted. Provincial boundaries were promulgated based on local economic and social interests, while at the same time balancing the power of central government and sub-national units (Christopher, 1995). It is in this context that Natal and the homeland of KwaZulu were combined to form the province of KwaZulu-Natal. This was based on the economic reality that in as much as the apartheid regime viewed Natal and KwaZulu as discrete states, the two relied on each other economically.

After the redrawing of provincial boundaries, local boundaries within provinces were also redrawn. The restructuring of local authority areas provided for by the Local Government Transition Act (LGTA) failed to redistribute resources between advantaged and disadvantaged settlements as it did not recognize the continuum of settlements that ranged from dispersed rural settlements to large agglomerations, as well as those in between such as dense peri-urban settlements by strictly drawing the line between rural and urban local authorities. As such the type of local government that materialized in terms of the LGTA did not support the notion of „one city" or „one tax base"; in most cases spatial inscriptions separated areas of abject poverty from areas of affluence (Nariasiah and Maharaj, 1999 cited in Maharaj, 2002: 3).

In the wake of the shortcomings of the LGTA, the Municipal Demarcation Act of 2000 demarcated local government boundaries based on the „wall to wall principle". This was in order to ensure that all parts of the country are well integrated so as to guarantee the provision of basic infrastructure and services; the creation of integrated cities and liveable environments, the encouragement of local economic development initiatives and the empowerment of communities (Maharaj, 2002). This process gave effect to the current local government differentiation in KZN as elsewhere in the country. One Metropolitan Municipality (EThekwini), ten district municipalities and 50 local municipalities were demarcated as shown in Tables 7.12 and 7.13 below, respectively. Wards were also demarcated based on the principles of an equitable and fair spread of the number of voters and people sharing a sense of community.

Table 7. 12: District and Metropolitan Municipalities as a percentage of total KZN area

District Code	District Name	Area (Square Kilometres	% of Area Square Kilometres
DC26	Zululand	1 4799.7	15.6
DC27	Umkhanyakude	13861.4	14.6
DC23	Uthukela	11331.2	12
DC43	Sisonke	11131.7	11.7
DC22	Umgungundlovu	8934.8	9.4
DC24	Umzinyathi	8589.6	9.1
DC28	Uthungulu	8214.2	8.7
DC25	Amajuba	6911.8	7.3
DC21	Ugu	5047.5	5.3
DC29	iLembe	3268.7	3.4
EThekwini	EThekwini	2291.9	2.4

Source: DGLGT KZN Province (2006)

Table 7. 13: Local Municipal Areas, 2005

Code	Name	Area in square kilometres	% Area square kilometres	TA Area Square kilometres	Population 2001	Population 2001	Wards 2000
KZ211	Vulamehlo	973	19.3	406	18.4	83044	10
KZ212	uMdoni	238	4.7	54	2.4	62293	9
KZ213	uMzumbe	1259	24.9	743	33.7	193767	19
KZ214	uMziwabantu	1089	21.6	443	20.1	92327	9
KZ215	Ezingolweni	648	12.8	250	11.3	54428	5
KZ216	Hibiscus Coast	839	16.6	308	14	218169	29
KZ221	uMshwathi	1818	20.3	258	14.2	108037	11
KZ222	uMgeni	1566	17.5	0	0	73896	11
KZ223	Mooi Mpofana	1651	18.5	0	0	36819	4
KZ224	Impendle	949	10.6	170	18	33569	4
KZ225	The Msunduzi	633	7.1	230	36.4	553223	37
KZ226	Mkhambathini	915	10.2	233	25.5	59067	7
KZ227	Richmond	1231	13.8	135	11	63222	7
KZDMA22	KZDMA22	168	1.9	0	0	0	0
KZ232	Emnambithini – Ladysmith	2965	26.2	170	5.7	225459	25
KZ233	Indaka	991	8.8	529	53.3	113644	10
KZ234	Umtshezi	2130	18.8	0	0	59921	7
KZ235	Okhahlamba	3540	31.2	931	26.3	137525	13
KZ236	Imbazane	827	7.3	448	54.2	119925	12
KZDMA23	KZDMA23	874	7.7	0	0	0	0
KZ241	Endumeni	1610	18.7	0	0	51101	6
KZ242	Nquthu	1962	22.8	1707	87	168026	17
KZ244	Msinga	2501	29.1	744	29.8	92294	11
KZ245	Umvoti	2515	29.3	1770	70.4	145034	15
KZ252	Newcastle	1856	27	0	0	332981	31
KZ253	Utrecht	3540	51	0	0	32277	4
KZ254	Dannhauser	1516	22	509	34	102779	10
KZ261	Edumbe	1942	13.1	253	13.1	82241	7
KZ262	uPhongolo	3239	21.9	606	18.7	119780	11
KZ263	Abaqulisi	4184	28.3	322	7.7	191019	20
KZ265	Nongoma	2182	14.7	2173	99.6	198444	19
KZ266	Ulundi	3250	22	1603	49.3	212970	24
KZ271	Umhlabuyalingana	3621	26.1	3160	87.3	140962	13
KZ272	Jozini	3057	22.1	2136	69.9	184090	17
KZ273	Big Five False Bay	1061	7.7	239	22.5	31106	4
KZ274	Hlabisa/Impala	1417	10.2	1345	94.9	176890	19
KZ275	Mtubatuba	496	3.6	0	0	35211	5
KZDMA24	KZDMA24	4207	30.4	0	0	0	0
KZ281	Mbonambi	1210	14.7	743	61.4	106942	13
KZ282	uMhlatuze	793	9.7	267	33.7	289190	30
KZ283	Ntambanana	1082	13.2	710	65.6	84771	8
KZ284	Umlalazi	2214	27	1576	71.2	221078	26
KZ285	Mthonjeni	1086	13.2	223	20.6	50383	6
KZ286	Nkandla	1827	22.2	1469	80.4	133602	14
KZ291	Endondakusuku	582	18	276	47	128669	16
KZ292	KwaDukuza	633	19	8	1	158582	20
KZ293	Ndwedwe	1157	35	718	62	152495	19
KZ294	Maphumulo	896	27	889	99	120642	11
ECO5b1	Umzimkulu	2436	21.9	809	33.2	174339	18
KZ5a1	Ingwe	1991	19.9	656	33	107558	10
KZ5a2	Kwa Sani	1213	10.9	0	0	15309	0
KZ5a4	Greater Kokstad	2681	24.1	0	0	56528	6
KZ5a5	uBuhlebezwe	1604	14.4	277	17.3	101959	12
KZDMA43	KZDMA43	1204	10.8	0	0	0	0
ETH	eThekwini	2292	2.43	981	42.8	3090121	100

Source: DGLGT KZN Province (2006)

Relations among national, provincial and local governments in SA are mediated through the constitution of the RSA Section 40 which states that „... government is constituted as national, provincial and local spheres of government which are distinctive, interdependent and interrelated". Thus provincial development, and local government development and spatial development strategies must take cognisance of and reflect national development and spatial imperatives, at the same time reflecting and taking cognisance of provincial and local development imperatives as they share the same geographic space (Provincial Spatial Economic Development Strategy, 2007: 8-9). Local government is a sub-set of provincial government and both local and provincial government are subsets of national government. The fiscal aspect of the relationship is also mediated by the Constitution of the RSA chapter 13 which states that:

> „An Act of Parliament must provide for equitable division of revenue raised nationally among the national, provincial and local spheres of government; the determination of each province's equitable share; and any other allocations to provinces and local government, municipalities...."

Settlement patterns and trends in KZN, as in any other post-1994 province in the RSA, were influenced by the requirement that municipalities adopt Integrated Development Planning (IDP). The Municipal Systems Act of 2000 requires all municipalities to prepare an IDP every five years, which is reviewed on annual basis. The Act defines an IDP as a super plan for a locality that provides the overall framework for development through the coordination of the work of all spheres of government, namely local, provincial and national and all stakeholders in governance which include the private sector, civil society and NGOs, with sustainable development in mind.

The notion of IDP in SA emerged in the aftermath of the Rio Earth Summit of 1992, which coincided with the democratic turnaround in SA. The Summit came up with Local Agenda 21, a global plan of action to enhance sustainable development throughout the world by acknowledging the existence of various spatio-temporal environments. As such, all policies that differentiated settlement function in KZN and the factors of production, in particular labour, since 1994, should be viewed in the context of the broad discourse of sustainable development and IDP, which is a local facet of it.

As in South Africa as a whole, one of the main policies shaping settlements in KZN since 1994 has been the adoption of the Reconstruction and Development Programme (RDP) by the ANC-led government. As noted in Chapter 6, the aim of the RDP was to redress the negative social, political and economic imprint of the apartheid government through targeting socio-economic and service backlogs. To operationalize the RDP on the economic front, the GEAR macro-economic policy was

adopted by the government in 1994. GEAR is underpinned by neo-liberal economic principles and is centred on trade liberalisation; competitiveness; export promotion; and stabilizing inflation by limiting government spending on social services through the privatization of state assets and PPPs in economic and social development projects.

As noted in Chapter 6, SDIs and the NSDP were rolled out at a national level to give effect to GEAR and the RDP specifically. SDIs focused on areas with economic potential across the country that had not been tapped because of real or perceived bottlenecks such as lack of infrastructure and human resources, by investing in both hard and soft infrastructure and at the same time promoting large investors, and medium and micro-enterprises through PPPs. However, SDIs were superseded by the NSDP which sought to strike a balance between areas with potential and those with none by focusing on infrastructural development in areas considered the engine of the economy, while at the same time providing services in areas considered to be of low-economic potential. Another national policy that also affected settlements in KZN is the Accelerated and Shared Growth Initiative (ASGI-SA), a policy adopted by the government in 2006 with the aim of accelerating economic growth; reducing the gap between the first and second economies and ensuring that social security reaches all who are eligible (KZN PSEDS, 2007: 3).

It is within this national policy framework that the provincial government of KZN, according to the KZN PSEDS (2007: 7), launched its economic and growth and development strategy in 2005. Its pillars are increasing investment in the province; skills and capacity building; broadening participation in the economy and increasing competitiveness. The PSEDS (*ibid*: 7) notes that in order to promote investment in sustainable economic development the government launched several programmes and interventions to promote and attract Foreign Direct Investment (FDI) and investment in infrastructure as was the case with the Dube Trade Port, the Provincial Growth Fund and the 2010 Soccer World Cup through investment in supporting infrastructure, sector development and corridor development. Linked to these programmes is the promotion of SMMEs and Broad Black Economic Empowerment (BBEE) through the provision of funds for SMMEs and cooperatives and skills training and development.

In line with the RDP, since 1994, there have also been programmes in KZN channelling investments to small and intermediate towns. Robinson (2002) details how the concept of rural service centres evolved in South African regional planning circles from the late apartheid era to its present state where IDP involves various stakeholders in government line functions and rural service provision.

This is in tandem with the Land Reform Programme, the Community Water and Sanitation Programme and the Municipal Infrastructure Programme, all of which were launched in rural areas and small towns in fulfilment of RDP policy (Todes, 2000).

Urban regeneration programmes have also been implemented in KZN, specifically in the inner city area of EThekwini Municipality as a response to the urban decay and degeneration that engulfed the area as a result of White flight and the concomitant relocation of the commercial and service sectors to suburban neighbourhoods. The regeneration initiative in the Point Waterfront area was undertaken in line with National Urban Tax Renewal Incentives which are based on the identification of Urban Development Zones (UDZs).

Another significant policy approach by the KZN provincial government which is in line with national policy directives are pro-poor LED initiatives which can be viewed as an acknowledgement of the heterogeneity of labour in KZN. For instance, the focus of the urban renewal programme in the Warwick Triangle in the inner city of Durban has been on integrating informal traders into the urban fabric through upgrading the quality of the area and the local physical environment, integrating the area with the city and expanding the facilities available to residents, traders and commuters (Rogerson, 2009: 524).

There has also been significant provision of low-cost housing to address housing backlogs in the province line with the RDP since 1994. Low cost housing provision has been achieved through six channels, namely, project linked subsidy, consolidation, emergency housing programme, financial linked subsidy, institutional linked subsidy and rural housing subsidy.

The role of private developers has also been reinforced in KZN since 1994. The key touchstone of the macro-economic environment operationalized by GEAR is the integral role of the private sector in promoting economic growth and housing for those who can afford participate in the market. In the wake of the decay of the inner city areas and concomitant deindustrialisation and the flight of the commercial sector to suburban locations, private developers in KZN and particularly EThekwini Municipality, have played a significant role in the development of suburban, high income residential estates such as in Umhlanga where Tongaat Hullett, a private land holding company, played a central role. Private developers have also played a significant role in the development of office parks along major freeways connecting the old CBDs and suburban nodes, as in the case of N3 between Pinetown and Durban.

The overall impact of the neo-liberal macro-economic policy environment is illustrated by the dominance of the tertiary and service sectors, rather than the agriculture and manufacturing sectors. The manufacturing sector, especially the textile industry was drastically impacted by the importation of cheap competitive goods, particularly those from China. This is shown in Tables 7.14 and 7.15 below.

Table 7. 14: GDP growth and contribution by sector for KwaZulu-Natal, 1995-2004

Sector	% Contribution to KZN GDP			% Average Annual Growth	
	1995	2000	2004	1995-1999	2000-2004
Primary	7.8	7.6	6.8	2.3	0.2
Secondary	31.1	30.3	28.5	1	1.6
Tertiary	45.9	48.9	52.8	3.8	5
Government	15.2	13.1	11.9	-0.1	0.6

Source: EIM calculations based on Quantec Regional Database cited in the Provincial Spatial Economic Development Strategy (2007: 55)

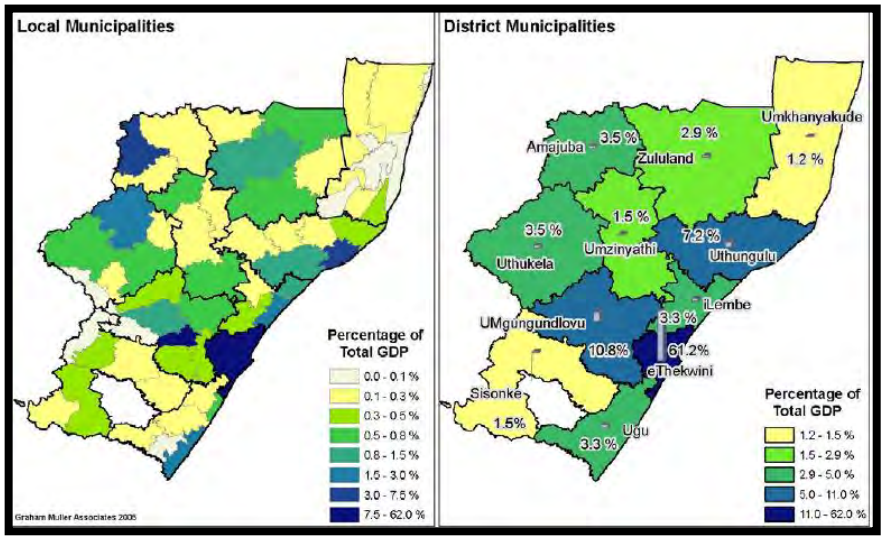
Table 7. 15: Employment growth and contribution by sector for KwaZulu-Natal, 1995-2004

Sector	% Contribution to KZN GDP			% Average Annual Growth	
	1995	2000	2004	1995-1999	2000-2004
Primary	10.7	10.2	9.3	-1.2	-1.4
Secondary	31.1	27.2	25	-3.1	-1.2
Tertiary	41.6	46	48.7	2.2	2.2
Government	16.6	16.6	17	0.7	1.3

Source: EIM calculations based on Quantec Regional Database cited in the Provincial Spatial Economic Development Strategy (2007: 56)

It should be noted that the spatial distribution of economic output is also uneven in the KZN province. The PSEDS points to the fact that the distribution of economic activity in the province is unevenly skewed towards coastal areas with Richards Bay and Durban contributing 70% of GDP. This shown in Figure 7.8 below, adopted from the PSEDS (2007).

Figure 7. 8: The Spatial distribution of GDP in 2004



Source: PSEDS (2007: 57, Based on Quantec Research)

This is merely a reflection of historical antecedents as these centres enjoy comparative advantages because of natural harbours and beaches which in turn attracted manufacturing industries and tourist activities. In the case of Richards Bay and Newcastle these areas have also been targeted as a growth centres by past and present policies.

7.5.2 Post-apartheid population of KZN

The approximate population of KZN in 2007 was around 10.3 million which amounted to 21% of the total population of RSA. At a district municipal level the population ranged from a minimum of 442,077 to a maximum of 3.5 million in EThekwini Metropolitan Municipality (Doctor, 2010: 12). This is shown in Table 7.16 below adopted from Doctor (2010). According to Robinson and Lincoln (2008: 10) given the fact that the South African Institute of Race Relations (SAIRR) estimated a growth rate of only 0.47% in the face of the HIV/AIDS pandemic, assuming a constant growth rate, the population was expected to be in the order of 10.5 million in 2008 and to have reached 11 million by 2018. Table 7.16 below shows that the gender ratio in the province is 93 males per 100 females. The table shows that gender ratios vary among district municipalities, with the EThekwini Metropolitan municipality posting a high of 97 males per 100 females. Doctor (2010) notes that this reflects the distribution of economic activity, as males have traditionally participated in labour migration more than women. The table also shows that the average household size in the province is 4.6, with the lowest recorded in EThekwini Municipality where it is 4.2 and the highest in Zululand where it is 5.8. Doctor (*ibid*) argues that this is simply an affirmation of a long standing postulation that households tend to be bigger in rural areas than in urban areas.

Table 7. 16: General demographic indicators of KwaZulu-Natal, Community Survey (CS), 2007

Sub-geographic area	Persons			Sex Ratio	Number of Households	Mean Household Size
	Males	Females	Total			
South Africa	23,413,410	25,092,147	48,505,557	93.3	12,500,610	3.9
KwaZulu-Natal	4,873,623	5,386,605	10,260,228	90.5	2,234,129	4.6
Ugu (6)	325,374	384,575	709,949	84.6	151,621	4.7
Umgungundlovu (7)	475, 877	512,676	988,553	92.8	217,876	4.5
Uthukela (5)	325,562	389,622	715,184	83.6	139,639	5.1
Umzinyathi (4)	221,678	274,113	495,791	80.9	104,534	4.7
Amajuba (3)	325,562	230,450	442,077	91.8	101,054	4.4
Zululand (5)	419,631	483,037	907,668	86.9	155,883	5.8
Umkhanyakude (5)	282,952	331,122	614,074	85.5	114,973	5.3
Uthungulu (6)	420,760	473,612	894,372	88.8	185,506	4.8
iLembe (4)	251,314	277,211	528,525	90.7	124,525	4.2
Sisonke (5)	229,170	271,041	500,211	84.6	105,659	4.7
eThekwini Metro	1,709,678	1,759,146	3,468,824	97.2	833,859	4.2

Source: StatsSA (2m7a); CS 2007 data (Cited in Doctor, 2010: 13) Note: Numbers in brackets in the first column indicate the number of local municipalities per district municipality

It should also be noted that the population in KZN is also dominated by the Black race, followed by Indians, Whites and Coloureds respectively, as shown in Table 7.17 adopted from Beires (2010) below.

Table 7. 17: Population Numbers and Racial Representation (Census)

	1996		2001		2009	
	Numbers	**% Value**	**Numbers**	**% Value**	**Numbers**	**% Value**
Total Population	**8,417,021**		**9,426,017**		**10,449,301**	
African	6,880,652	82%	8,002,407	85%	8,917,120	85%
Coloured	117,951	2%	141,887	2%	139,209	1%
Indian	790,813	9%	798,275	8%	908,006	9%
White	558,182	7%	483,448	5%	484,965	%

Source: Beires (2010: 20)

It should be noted that the picture presented by Doctor (2010) on household sizes in KZN is a static one as it merely shows household size in 2010. There has been a significant trend towards household sizes declining in KZN province, especially among Africans. This is shown in Table 7.18, adopted from Beires (2010).

Table 7. 18: Household growth in KZN (Census)

	1996		2001		2009	
	Number	**% Value**	**Numbers**	**% Value**	**Numbers**	**% Value**
Total Households	**1,770,915**		**2,323,000**		**2,450,792**	
African	1,342,961	76%	1,897,863	82%	2,020,746	82%
Coloured	27,495	2%	31,868	2%	38,209	2%
Indian	185,886	10%	211,045	9%	217,661	9%
White	214,510	12%	182,223	8%	189,175	8%

Source: Beires (2010: 21)

Another significant factor regarding the population of KZN is that it is a relatively youthful one, with a mean age of 22, compared with SA, which has a mean age of 24, as shown in Table 7.19 below. This raises the question of the socio-economic needs of a youthful population.

Table 7. 19: Age profile of KwaZulu-Natal for both genders, CS2007

Sub-geographic area	**Mean**	**Median**	**std. Dev**	**[M in, Max]**
South Africa	27.5	24	19.7	[0,120]
KwaZulu-Natal	26.1	22	19.3	[0,120]

Source: Doctor (2010: 14 but modified for use in this research)

It should be noted also that there are significant variances in age structure amongst the different races in KZN. Doctor (2010: 18) notes that the main variances are as follows:

- Among Blacks 35.7% were aged 0-14 years; 7.5% were aged 15-49; 4.1% were aged 50-64 and 4, 1% were aged more than 65 years.
- Fertility among Blacks and Coloureds was higher than that of Indians and Whites.
- There was also a significantly larger proportion of Whites aged in 50 and more compared with Indians, Coloureds and Blacks. Among Blacks only 11.5% were aged over 50 and more and 6% were over 60.

It can be discerned that Blacks have a huge dependency ratio and the lowest life expectancy. Another key demographic characteristic of the population of KZN is fertility decline which started in SA during the apartheid era. In KZN fertility levels among Black women between the 1996 and 2001 census declined from 3.5 to 3.0 children per woman (Moultrie *et al,* 2008, cited in Doctor, 2010: 19).

Another significant population characteristic in KZN is poverty, inequality, and unemployment. The PSEDS (2007: 5) notes that according to the Global Insight, in 5.3 million people were living in poverty in KZN and 1.2 million people were living on less than US$1 a day (R6.50 a day or R200 a month), a poverty gap of Rbn 18.3; 1.3 million people were living with HIV/AIDS (15% of the population in 2005); there was a drop in life expectancy to 45 years and 15% of the population had no schooling.

Poverty is distributed unevenly in space and among races. Since most people living in poverty stay in rural areas and considering that Blacks are the least urbanised, this indicates that they are the most afflicted. Furthermore, the fact that the economic hub of the province is the coastal areas of EThekwini and Richards Bay and that most Black people still reside in areas with small economic bases reinforces the spatial and racial dimension of poverty.

7.5.2.1 Urbanization and urban growth

Urbanization and urban growth trends in post-apartheid KZN were first influenced by the administrative boundaries introduced by the LGTA of 1993. The LGTA differentiated between three types of settlements, namely, metropolitan, urban and rural. As noted earlier, metropolitan areas were settlements under the jurisdiction of municipality or any other local government; densely populated with intense movement of population and goods, people and services within a service area; and extensively urbanised with more than one CBD which formed a functional unit comprising smaller units which are economically interdependent in terms of services (Sadiki and Ramutsindela, 2002).

With the promulgation of „wall to wall" municipalities official data on urbanization and urban growth was based on the understanding that rural areas comprised traditional authority areas and urban areas

were comprised of informal and formal areas. Based on this classification of rural and urban areas, the 1996 census results (Central Statistical Services, 1997b) show that the level of urbanization in KZN in October 1996 was 43.5% compared with 38% in 1991 (Saayman, *et al*, 1997: 105). The degree of urbanization for men and women was 45% and 42% respectively. In 2001 Stats SA reported that urbanization in the province had increased to 45% (Beires, 2010). Also significant is the differential urbanization among the racial population groups in the province. Table 7.20 below, adopted from Beires (2010), shows that the most urbanized race is Indians, followed by Whites, Coloureds and Africans in descending order.

Table 7. 20: Racial Components of urban/rural populations (in %s)

Urban/Rural Populations	African	Coloured	Indian	White	Total
Rural	54%	27%	1%	14%	47%
Urban	46%	73%	99%	86%	53%

Source: March 2003 Labour Force Survey, cited in Beires (2010:13)

In terms of urban growth, it should be noted that EThekwini Municipality dominated the urban system in KZN in terms of population and economic growth. This is reflected in Tables 7.21 and 7.22 below, adopted from McCarthy and Robinson (2007: 8-9). From the tables McCarthy and Robinson note that between 1996 and 2001 the Durban Metropolitan area gained 300,000 people, followed by Umhlatuze (Richards Bay), which gained 100,000 and towns that gained 30,000 to 40,000 namely Jozini, Newcastle, eMnambithini-Ladysmith and Msunduzi. Most of these towns have traditionally dominated the urban system in KZN in terms of economic and population growth. This is mainly due to locational constants such as natural harbours and coal in the case of Richards Bay and Durban, and Newcastle, respectively which attracted affiliated economic activities. Government policies should also not be downplayed in the concentration of population and economic activity in these areas as the previous and present governments have targeted some of these areas as growth centres.

However, in as much as EThekwini Municipality gained more population than small and intermediate towns, the contribution of migration to its urban growth relative to intermediate towns was subdued. This shown in Table 7.23, below adopted from Saymaan *et al* (1997), based on their analysis of migrants per district area in KZN using 1996 census data. From the table they note that Umzinyathi (29%) and Indlovu (28%) had significantly high proportions of migrants, a phenomenon, in the case of Umzinyathi, which they attribute to industrial development in the Newcastle-Madadeni-Osizweni area. They also note that the Durban metropole reported a proportion of migrants on par with the provincial average which points to high rates of migration to areas other

than the metropole, specifically to smaller and medium sized towns. As such one can argue that from the 1990s the urban system in KZN witnessing a kind of polarization reversal.

Table 7. 21: Population and Population Change by Local Municipality, 1996-2001(Source of Data: Demarcation Board, www.demarcation.org.za; cited in McCarthy and Robinson, 2007: 8)

Code	Local Municipality	Total Population (count)		Population change 1996-2001 (count)	% Population Change 1996-2001
		1996	2001		
KZ 211	Vulamehlo	102232	83044	-19188	-18.8
KZ212	Umdoni	54220	62293	8073	14.9
KZ213	uMzumbe	164799	193767	28968	17.6
KZ214	uMziwabantu	82113	92327	10214	12.4
KZ215	Ezingoleni	47039	54428	7389	15.7
KZ216	Hibiscus Coast	192946	218168	25222	13.1
KZ221	uMshwathi	114136	108037	-6099	-5.30%
KZ222	uMngeni	69741	73896	4155	6.00%
KZ223	Mooi Mpofana	24785	36819	12034	48.60%
KZ224	Impendle	33948	33568	-380	-1.10%
KZ225	Msunduzi	521805	553223	31418	6.00%
KZ226	Mkhambithini	46089	59067	12978	28.20%
KZ227	Richmond	62108	63222	1114	1.80%
KZ232	Emnambithini-Ladysmith	178551	225459	46908	26.30%
KZ233	Indaka	98498	113644	15146	15.40%
KZ234	Umtshezi	47250	59921	12671	26.80%
KZ235	Okhhlamba	118919	137525	18606	15.60%
KZ236	Imbabazane	110594	119925	9331	8.40%
KZ241	Endumeni	44417	51101	6684	15.00%
KZ242	Nqutu	128823	145034	16211	12.60%
KZ244	Msinga	161393	168026	6633	4.10%
KZ245	Umvoti	92419	92294	-125	-0.10%
KZ252	Newcastle	287260	332981	45721	15.90%
K253	Utrecht	23929	32277	8348	34.90%
KZ254	Dannhauser	99250	102779	3529	3.60%
KZ261	eDumbe	65377	82241	16864	25.80%
KZ262	uPongolo	98314	119780	21466	21.80%
KZ263	Amaqulusi	165807	191019	25212	15.20%
KZ265	Nongoma	188996	198444	9448	5.00%
KZ266	Ulundi	193301	212970	19669	10.20%
KZ271	Umhlabuyalingana	122340	140906	18566	15.20%
KZ272	Jozini	151689	184090	32401	21.40%
KZ273	The Big 5 False Bay	26302	31106	4804	18.30%
KZ274	Hlabisa	168508	176890	8382	5.00%
KZ275	Mtubathuba	25653	35211	9558	37.30%
KZ 281	Mbonambi	96497	106942	10445	10.80%
KZ 283	uMlatuse	196183	289190	93007	47.40%
KZ 283	Ntambanana	72727	84771	12044	16.60%
KZ284	uMlalazi	231023	221078	-9945	-4.30%
KZ 285	Mthonjaneni	36848	50383	13535	36.70%
KZ286	Nkandla	129513	133602	4089	3.20%
KZ291	eNdondakusuku	111909	128669	16760	15.00%
KZ292	KwaDukuza	131091	158582	27491	21.00%
KZ293	Ndwedwe	167404	152495	-14909	-8.90%
KZ294	Maphumulo	124703	120642	-4061	-3.30%
KZ5a1	Ingwe	95151	107558	12407	13.00%
KZ5a2	Kwa Sani	14574	15309	735	5.00%
KZ5a3	Matatiele	10143	16226	6083	60.00%
KZ5a4	Greater Kokstad	34736	56528	21792	62.70%
KZ5a5	Ubuhlebezwe	76992	101959	24967	32.40%
	eThekwini	2751193	3090121	338928	12.30%
	Total	8394238	9419537	1025299	12.20%

Table 7. 22: Total Population Distribution by Magisterial District, KwaZulu-Natal, 1996;2001(Source; Statistics SA, cited in McCarthy and Robinson, 2007: 9)

Magisterial District	Total Population		Population change (count)	% Population Change
	1996	2001		
Alfred	125833	146566	20733	16.5
Babanango	40597	45837	5240	12.9
Bergville	110831	120519	9688	8.7
Camperdown	200339	231187	30848	15.4
Chatsworth	189885	203957	14072	7.4
Dannhauser	74561	77575	3014	4
Dundee	85332	96390	11058	13
Durban	566120	598141	32021	5.7
Eshowe	214654	228200	13546	6.3
Estcourt	159376	187809	28433	17.8
Glencoe	31322	36693	5371	17.1
Hlabisa	198180	218444	20264	10.2
Impendle	38125	39484	1359	3.6
Inanda	794167	911472	117305	14.8
Ingwavuna	171919	195368	23449	13.6
Ixopo	131632	153466	21834	16.6
Klipriver	198095	245182	47087	23.8
Kranskop	50971	58163	7192	14.1
Lions River	53289	64849	11560	21.7
Lower Tugela	177460	198198	20738	11.7
Lower Umfolozi	241837	298084	56247	23.3
Mapumulo	150168	137775	-12394	-8.3
Mhlabathini	146413	159595	13182	9
Mooi River	22563	31034	8471	37.5
Mount Currie	44871	72754	27883	62.1
Msinga	163736	175368	11632	7.1
Mthonjaneni	72327	95822	23495	32.5
Mtunzini	198898	248278	49380	24.8
Ndwedwe	144172	131384	-12788	-8.9
New Hanover	87223	97957	10734	12.3
Newcastle	303727	347504	43781	14.4
Ngotshe	35223	39936	4713	13.4
Nkandla	135081	139848	4767	3.5
Nongoma	188959	198443	9484	5
Nqutu	189097	226145	37048	19.6
Paulpietersburg	60591	74674	14083	23.2
Pietermaritzburg	573843	597253	23410	4.1
Pinetown	442948	490701	47753	10.8
Polela	79537	90002	10465	13.2
Port Shepstone	225918	254905	28987	12.8
Richmond	64868	64112	-756	-1.2
Simdlangentsha	87762	106048	18286	20.8
Ubombo	132302	158445	26143	19.8
Umbumbulu	194192	240628	46436	23.9
Umlazi	339715	382741	43026	12.7
Umvoti	88128	83596	-4532	-5.1
Umzinto	238805	257414	18609	7.8
Underberg	16175	14076	-2099	-13
Utrecht	25300	32863	7563	29.9
Vryheid	88323	93382	5059	5.7
Weenen	21632	27752	6120	28.3
Total	8417019	9426019	1009000	12

Table 7. 23: Proportions of former migrants by District Council Area

District council area	Number of Households	Precision	Estimate (proportion former migrants	95% Confidence Interval
Uthungulu	1 081	11%	23%	21 - 26%
Zululand	860	12%	23%	20 -26%
Umzinyathi	761	11%	29%	26 -32%
Uthukela	580	18%	17%	14 - 20%
Indlovu	1 570	8%	28%	26 - 30%
Llembe	366	24%	15%	12 - 19%
Ugu	601	13%	27%	23 - 30%
Durban metro	687	14%	23%	20 -26 %
KwaZulu-Natal	6 506	5%	22%	21 - 23%

Source: Saayman *et al* (1997)

In terms of growth within individual urban centres, urban growth patterns since the late apartheid era, particularly in EThekwini Municipality have reflected post-modern urban growth patterns and trends. This is in the face of the deindustrialization that was triggered by the neo-liberal macro-economic policy environment and the concomitant decline in inner city areas and the relocation of main service sectors of the economy, namely, insurance, finance and retail to exurban locations such the Umhlanga area north of the old Durban CBD. As such EThekwini Municipality is characterized by edge city development. Beires (2010) notes that the Umhlanga node in EThekwini Metropolitan Municipality that was developed by private developers, Tongaat Hullett is a classic example of both new urbanism and edge city development as it contains premium retail, office and residential space modelled against a framework of compact city development.

Another facet of post-modern urban growth trends in KZN has been the growth of the „carceral city" especially in the post-1994 city of Durban. This trend is also associated with the development of office parks along the main freeways connecting the old Durban CBD and major suburban nodes such as the N3 highway between Pinetown and the old Durban CBD and the relocation of commercial and services sector to exurban nodes. In the past ten years gated communities have been developed in suburban nodes like Hillcrest and Umhlanga area to such an extent that, in the case of Hillcrest, the EThekwini Council placed a moratorium on all residential estate development for a period of 1-2 years as the infrastructure could not cope with the rate of development (Beires, 2010). The flipside of this development has been the gentrification of inner-city areas, especially the Point Waterfront, as a result of neighbourhood revitalization and regeneration programmes.

Cities in the province have also witnessed the dualization of spaces between formal and informal land uses. This is very visible in the CBD and inner city area where there is competition between formal and informal land uses. Durban"s CND is characterized by formal government administrative offices and formal commercial stores on the one hand, whilst on the other hand street vendors sell their wares in front of formal commercial retail stores (Geyer, 2011). This development is closely

associated with post-apartheid government policy which acknowledges the heterogeneity of labour in SA by accommodating the informal sector, as illustrated by the inclusion of informal traders in inner city revitalization programmes like the Warwick Triangle urban renewal programme.

In terms of residence, the city also has experienced a surge in informal settlements since the late apartheid era, most which are peripherally located as in the case of Inanda, although there are some within its suburban area such as Mayville. From Table 7.24 below, adopted from Saaymen *et al* (1997) and based on the 1996 census, it can be discerned that most formal dwellings (63%), backyard dwellings (73%) and informal dwellings (73%) are located in urban areas. In relation to the peripheralization of low-income informal settlements in KZN cities, Robinson and McCarthy (2010) note that Inanda, a peripherally located informal settlement on the edge of Durban has dominated in terms of population growth since the 1970s.

Table 7. 24: Proportions of urban households by housing type

Housing Type	Number of households	Precision	Estimate (Proportion urban)	95% Confidence interval
Formal dwelling	2 113	3%	62%	60 - 64%
Traditional dwelling	3 044	17%	4%	4 - 5%
Flat (in block)	90	20%	50%	40 - 60%
Town/Cluster house	186	4%	93%	88 - 96%
Backyard dwelling	229	8%	73%	67 - 78%
Backyard shack	66	31%	37%	27 - 49%
Informal dwelling	239	8%	73%	67 - 78%
Other housing type	533	12%	35%	31 - 39%

Source: Saayman *et al* (1997: 107)

It should be noted that since 1994, most low income housing projects have been peripherally located, especially in the city of Durban, although there are exceptions to this trend.

7.5.2.2 Migration in the post-apartheid province of KZN

Late apartheid era and post-apartheid economic and social policies significantly shaped migration patterns and trends and thus patterns of urbanization and urban growth in KZN. Although legal restrictions on the movement of people in the form of influx control were scrapped, polices were put in place to prevent a huge influx of people from the former homeland areas flooding the major metropolitan areas of SA. Todes (2000) notes that in the late apartheid era the government embarked on a policy of decentralizing industry from metropolitan areas to small and intermediate towns and the provision of services and infrastructure to rural areas to reduce incentives for people to migrate to the major cities. In the post-apartheid era these policies continued, as the focus of the RDP was also decentralization of industry through the SDIs and poverty alleviation in the major cities and the countryside through addressing services backlogs. Also another factor that affected migration in

post-apartheid KZN which was mostly metropolitan bound during the peak-apartheid era, and noted by Todes (2000) was the faltering economy which saw employment contracting in both commercial farming and metropolitan areas.

One of the significant trends in migration in KZN induced by these developments is the slowdown in in-migration from rural areas to the metropolitan areas of Durban. This has been linked to the weak performance of Durban‟s economy, largely because of the plummeting manufacturing and tourism sectors, which saw unemployment in the area rising above that of Gauteng and the Western Cape (Cross *et al*, 1998; Todes, 2000). Cross *et al* (1998) highlight that in KZN, particularly the EThekwini Municipal area employment opportunities are increasingly being sealed for rural born would be rural-urban migrants as the job market is dominated by poor urban dwellers staying in established townships and shack settlements.

Also associated with this trend, has been significant migration out of EThekwini Municipality to peri-urban and rural settlements on the fringes of the metropolitan area where services are relatively cheaper (Cross *et al* 1998; Todes, 2000; Saayman *et al*, 1997). This trend can be discerned in Table 7.25 below, based on an analysis of the 1996 census by Saayman *et al* (1997: 109).

Table 7. 25: Place of origin of former migrants, according to district council area

District council area	Durban Metro	Ilembe	Indlovu	Ugu	Umzinyathi	Uthukela	Uthungulu	Zululand	Same district council	Rest of SA	Abutting countries	Elsewhere in the world
Durban Metro	0	29	22	7	3	3	7	6	21	2	0	0
Ilembe	25	0	18	11	3	0	14	4	15	4	0	5
Indovu	13	6	0	6	4	1	6	6	49	8	0	1
Ugu	12	5	18	0	3	4	4	2	16	25	0	16
Umzinyathi	8	4	14	2	0	10	6	14	23	18	0	0
Uthukela	24	4	21	1	8	0	4	7	18	12	0	1
Uthungulu	13	7	8	4	5	3	0	11	32	13	0	4
Zululand	5	4	2	2	23	7	15	0	38	3	1	1

Source: Saayman *et al* (1997: 9)

It is also important to note that there has been a lot of debate about whether circular migration, a dominant pattern of migration during colonial times up until the apartheid era, is still as prevalent in post-apartheid KZN and SA. Todes (2000) notes that whilst Cross *et al* (1998; 1999) show that links between rural and urban households have been declining, studies by Meth (1998) and Smit (1998) show that remittances to rural settlements continue and that households in urban areas still maintain rural ties and multiple survival strategies over space. This is affirmed by Bereis (2010:18), who points to a survey by Finmark Trust (2004) in Durban in the townships of Lamontville (old township stock), Inanda (private stock) Newlands West (RDP), Ntuzuma (informal stock) and Umlazi E (site

and services stock), where 13-46% of households revealed that they were multi-modal, as they had another home in the rural areas resulting in them being unwilling to sell their properties.

There has also been significant migration into large towns in KZN such as Newcastle and Richards Bay, partly as a result of industrial decentralization policies that created employment opportunities in these towns. In the case of Newcastle, Todes (2000) notes that in-migration continued into the area despite the contraction of industrial employment as a result of displacement from farms. Saayman *et al* (1997) also point out that significant migration took place from EThekwini to iLembe District Municipality.

In KZN small and intermediate settlements and the dense settlements around them have played an increasing role as destinations for rural migrants, especially those formerly employed in the declining commercial farming sector. Bank (1997, cited in Todes, 2008: 18) notes that in KZN there has been significant displacement from commercial farming areas as a result of drought, declining material conditions, mechanization, and fears of growing unionization and imposition of labour legislation. Small towns on the South Coast have also been a destination for those who are aging and retiring from work (Saayman *et al,* 1997).

Rural-rural migration also features prominently in post apartheid KZN. Cross *et al* (1998: 644) note that three-quarters of moves recorded in KZN were within rural areas, leaving rural-urban migration to represent only a quarter of all the moves in the province. This is also affirmed by Collinson *et al* (2006). Todes (2000: 18) points to Kiepel (1994) and Hindson and McCarthy"s (1994) studies, that suggest that dense rural settlements are concentrating around the main transport routes and near to towns and that there has been movement from distant parts of the district. As such Todes (*ibid*) argues that while people are moving close to places where employment is generated, there is also significant movement of people into areas where employment is declining or was never existent in the first place, simply because of indiscrete service and infrastructure provision policies (*see also* Cross *et al*, 1998; Collinson *et al*, 2006). It is important to note that institutional factors and social capital also play a role in mediating rural-rural moves as people in rural areas tend to migrate to areas where tenure systems are receptive. Cross *et al* (1998) note that a case study conducted at KwaDumisa at Umzinto revealed the relationship between institutions and access to land infrastructure in a densifying area in attracting migration (*see also* Collinson *et al,* 2006).

Women who have traditionally been marginalized from migration, have also featured prominently in post-1994 KZN migration streams. Saayman *et al* (1997: 110) argue that in the 1996 census although

gender difference is statistically significant, actual proportions do not differ much. This is also linked to the employment of women in the informal sector.

Household mobility has been a facet of migration linked to urban growth in KZN. In the city of Durban, as in most post-apartheid metropolitan cities such as Johannesburg since the late apartheid era, there has been migration from suburban city neighbourhoods by the White middle and upper classes to exurban, gated communities because of fear of crime. Freund (2010: 289; citing Bremner, 2002; Czegledgy, 2003) notes that one of the most common reactions in post-apartheid SA has been a return to the sub-urban ideal through walling and other devices such as security gates in the streets, guardhouses, and the construction of gated sub-urban housing tracts as well as electronic alarms and automobile tracking systems.

There has also been movement within the City of Durban, mostly by young African households, into formerly exclusive suburban apartheid White and Indian neighbourhoods such as the Berea Ridge (formerly White) and Phoenix (formerly Indian) which is associated with government BEE policies and the rise of the Black middle class. Schensul and Heller (2011) highlight that the 1996 and 2001 censuses revealed there was class-stratified mixing in the City of Durban, as areas that were exclusively White or Indian changed with the influx of Indians or Blacks, notwithstanding the fact this occurred at a geographic and class scope. This played a significant role in the spatial mobility of groups previously living in peripheral locations with limited services and social facilities.

There has also been significant household formation, particularly among the African population, an indication that the African group is moving towards the western- style nuclear family (Beires, 2010: 21). Cross, *et al* (1998: 645) highlight that the urban informal population in KZN might be stabilizing after the sudden expansion and decompression of the early 1990s when government policy resulted in shacks mushrooming as overcrowded households split and household sizes dropped drastically.

Gentrification is also another trend of migration in the city of Durban which is linked to inner city revitalization and regeneration programmes, particularly those in the Point Waterfront area. This has resulted in the displacement of upper middle and lower class income groups by the middle and upper income group, especially BEE beneficiaries (Beires, 2010; Adebayo, 2010).

International migration has also shaped urbanization and urban growth in the post-apartheid province of KZN, particularly in the city of Durban. Freund (2010) notes that a former city official estimated

verbally that there might be more than 100,000 immigrants from the Southern half of Africa in the City of Durban, many of whom are employed in the informal sector. These immigrants stay in the flashpoints of urban decay as the Albert Park area and in some cases in peripherally located squatter settlements.

7.5.3 Post-1994 Settlement Morphology

Administratively the spatial manifestation of settlements in KZN is differentiated into the metropolitan municipality (EThekwini) and district municipalities, which are further sub-divided into local municipalities. These administrative entities are further divided into rural and urban-based areas. A rural area is differentiated on the basis that it is under commercial farming or the jurisdiction of a traditional authority, whilst urban status is given to areas with informal and formal settlements. Population distribution in the province based on the administrative criteria of differentiating settlements is shown in Table 7.26 below.

Table 7. 26: KZN population distribution by District (2006) (based on SAIRR data)

District	Name	Population 2006	% Population 2006	% Urban population	% Rural population
EThekwini	EThekwini	3395283	32.7	83	17
DC28	Uthungulu	1035973	9.98	22.5	77.5
DC22	Umgungundlovu	957054	9.22	61	39
DC26	Zululand	887897	8.55	17.7	82.3
DC21	Ugu	761370	7.33	23	77
DC23	Uthukela	760693	7.33	31.9	68.1
DC27	Umkhanyakude	645358	6.22	4.5	95.5
DC29	iLembe	574774	5.54	28	72
DC25	Amajuba	522340	5.03	63	37
DC24	Umzinyathi	487410	4.69	17.3	82.7
DC43	Sisonke	354560	3.41	18	82
	KZN totals	10 382 712	100	48	52

Source KZN Profile (2007)

It should be noted that in as much as this is a useful way of ascertaining the morphology of settlements at the regional level based on hard and fast definitions of urban and rural settlements, the method does not take historical social, economic, demographic and natural antecedents that influence settlement systems and their spatial manifestation at a regional level into account. Thus Robinson and Lincoln (2008) note that this is a static picture of settlement systems in KZN that does not reveal where population and economic growth is dominant or dormant. Based on historical population trends, historical economic growth trends of locations and implications for growth prospects and sectoral economic mixes and implications for growth prospects they identify an alternative settlement typology for the broad KZN region and for urban-rural settlements. A more detailed

description of the settlements and the details of settlements within the broad categories are shown in Tables 7.27 and 7.28, adopted from Robinson and Lincoln (2008).

Table 7. 27: Categories of towns and settlements in KZN

Urban centre with high growth potential	Towns and rural settlements with little growth potential and high need
Primary node –eThekwini	Small towns with less prospect for growth
Secondary Nodes - Richards Bay/Empangeni, Newcastle/Madadeni, Port Shepstone	Rural settlements with very little economic base
Tertiary nodes - Intermediate towns ranked according to growth prospects	

Table 7. 28: A provisional settlement typology for KZN

Urban end of continuum	settlement type	Examples
	eThekwini a) formal established areas	Berea, Westville, Kloof, Umhlanga, Amanzimtoti
	eThekwini b)long established townships, many with backyard shacks and pockets of informal settlement	Chesterville, Umlazi, Kwa Mashu, Mpumalanga, Chatsworth, Phoenix
	eThekwini c)new townships (bond housing and RDP housing)	Chesterville ext.., Welbedacht, Waterloo, Illovo
	eThekwini d) informal settlements within and around established areas	Cato Crest, Folweni, Bambayi, St Wendolins
	eThekwini e) informal settlements of the periphery	Fredville, Cottonlands, Amahlongwa
	eThekwini f) peri-urban and rural settlements of the outer periphery	Umbumbulu, Umgababa, Inchanga, Ximba
	Secondary metropolitan city Msunduzi (Pietermaritzburg) - formal established, etc, as for eThekwini	a) Scottsville, Hayfields, Wembly b) Edendale, Northdale c)Bisley d) Copesville
	Secondary metropolitan city Mhlatuze (Richards Bay/Empangeni) - formal established, etc, as for eThekwini	a) Empangeni, Meerensea b) Esikaweni, Ngwelezana c)... d) Nseleni
	Intermediate towns - formal established, etc. As for eThekwini	a) Ballito/ Stanger b) Groutville c)Etete d) Shayamoya
	Small towns - formal areas, townships, new RDP areas, informal settlements	Babanango, Richmond, Dundee, Harding
	Small towns - informal settlements	Highflats, Mbazwana, Izingolweni
	R293 towns + surrounding informal and peri-urban settlements	Jozini
	Remote resettlement areas and RDP townships	Frisgewaagt, Beacon Hill (S Coast)
	Peri-urban/dense rural settlements	East of Mandeni, inland Scottburgh
	Rural settlements (ranging from large to very small)	Surrounding Ulundi
	Scattered rural settlements	Deep rural areas
	Scattered rural (highly a settlement)	Deep rural areas
Rural end of continuum	Commercial farms	North coast, Midlands, South Coast

Source: Robinson and Lincoln (2008: 12)

7.5.3.1 Paradigm underpinning the spatial manifestation of settlements in the post-apartheid period in the Province of KZN

Since the dawn of the post-apartheid period of democracy, the province of KZN, in tandem with the rest of the RSA, has been operating within the neo-liberal policy framework. Thus the formulation and implementation of policies aimed at realising development goals have been the responsibility of multiple stakeholders and discourses which include international NGOs, CBOs, civic organizations

and national, provincial and local government, as well as the private sector. Many partnerships have been forged in the province between and among the various stakeholders. This being the case, it is important to ascertain whether technocrats (government bureaucracies), the private sector or civil society has more power to influence the spatial manifestation of settlement function and population in the province. This is within the scope of this research study.

Nevertheless, there agreement among SA planning and history scholars that big capital‟s discourse has out-manoeuvred other micro-narratives in the planning of settlements in SA. This is alluded to by Freund (2010); Schensul and Heller (2011); and Mabin (2005), specifically the way post-Fordist economies have placed private developers at the centre of shaping the spatial structure of cities. Bond (1991) also points to the way economic power has been centralized at the commanding heights of SA national government, leading to many unjust acts being committed against the country‟s poor masses in the rubric of economic growth and progress. Musvoto (2007) concurs with Bond in his in-depth study of community environmental CBOs in the South Durban Basin, the industrial hub of the city of Durban where chemical and petro-chemical industries are wrecking havoc by emitting noxious gases in poor neighbourhoods, with government playing a complicit role.

Nonetheless, the spatial manifestation of post-apartheid settlements in KZN province should be viewed from a post-modernity vantage point in terms of state (governance); methodology (analysis of various narratives from competing stakeholders in governance) and economic structure (heterogeneous post-Fordist economies).

7.6 Conclusion

This chapter has traced the historical evolution of settlement patterns and trends in the province of KZN from colonial times to the present with a specific focus on the economy, population and morphology. In the process, it has come up with a settlement typology which reflects the past social, economic and natural forces that shaped the spatial manifestation of settlements. This has set the scene for the selection of archetypical settlement typologies for the empirical application of a synthetic methodology to assess settlement patterns and trends in order to guide the formulation of sustainable settlement development plans.

8. Chapter Eight: Empirical Techniques for assessing Settlement Patterns and Trends to guide Sustainable Settlement Development Plans

8.1 Introduction

This chapter presents techniques for empirically assessing settlement patterns and trends in order to facilitate the formulation of sustainable settlement development plans. It is based on the synthetic theory for assessing settlement patterns and trends developed in Chapter 2 and its sequential application to international and local settlement precedents. The theory revealed that settlements perform social, economic and political functions which in turn affect the population and their spatial occupation of the earth‟s surface (morphology) or *vice versa*, depending on the context. Therefore, settlement patterns and trends have to be benchmarked based on function, population and morphology; and sustainable settlement development plans consequently need to be a matrix matching the three facets of settlements.

8.2 Empirical synthetic techniques for assessing settlement patterns and trends

In terms of function, from the synthetic theory and its application to international precedents, it can be discerned that, in as much as the service function of settlements can be assessed within the premise of the central place theory pioneered by Walter Christaller in 1933, this is limited as it fails to acknowledge the economic role and distribution of settlements arising from natural resource endowments, differentiation of the factors of production due to government intervention and the heterogeneity of labour markets in the 21st century. Thus an in-depth understanding of the function of settlements is facilitated by service role analysis, and a regional economic analysis premised on natural resources and on the effect of government policies on the economic structure of regions and the structure of labour markets to gain a comprehensive picture of the social and economic function and heterogeneity of settlements. In turn, it should be noted that that the social and economic role of settlements impact on the social, economic and physical characteristics of the population which are also impacted by notions of urbanization and urban growth and affiliated migration. A more complete picture of settlements is, however, provided by morphology, which is a spatial manifestation of settlement function and population characteristics. The underpinnings of morphology are the different paradigms explaining the different models of settlement form. Therefore techniques for empirically assessing settlement patterns and trends is made up tools and techniques that practically measure settlement function, population and morphology in a dialectical manner, as demonstrated in the development of a synthetic theory of settlement patterns and trends. These tools and techniques are Catchment Area Analysis (CAA) (to determine access to facilities

that play a social function), Functional Analysis (measuring the service functions of settlements), Regional Economic Analysis (measuring the economic role of settlements based on difference, differentiation and heterogeneity), Demographic Analysis (measuring the social, economic and physical characteristics of the population), Land Use Analysis (morphology) and Discourse Analysis (measuring the underpinning philosophies of morphology).

8.2.1 Accessibility Analysis

The analysis of the services available to residents is underpinned by the central places theory as it recognizes demand for central functions (services) as the driving force behind the emergence of central places (service centres) as well as the importance of access (transport) to these central places and the functions they provide (Wanmal and Islam, 1995: 152). Therefore there is a need to determine the level of relative access to towns, or "central places" through accessibility analysis (Bendavid-Val, 1991). Williams (2001) points to three main methodologies used for accessibility analysis namely threshold analysis, accessibility analysis and catchment area analysis. These are explained in Table 8.1 below.

Table 8. 1: Methodologies used to determine supporting population, catchment size and accessibility to services

	Threshold Analysis	*Accessibility Analysis*	*Catchment Area Analysis*
Output	Calculates the size of resident population required to support a service/facility whilst in operational county, settlement or ward level.	Determines the number of residents within accessible distances of services and facilities by foot, cycle or public transport.	Determines the number of residents living in the catchment area of specific facilities/services. Also calculates minimum average distances travelled to access facilities services.
Methodologies	County analysis, ward analysis, settlement analysis	Accessibility Analysis (AA)	Catchment Area Analysis (CAA), Sectoral Catchment Analysis (SCAA)

Source: Williams (2001)

8.2.2 Functional Analysis

CAA has shortcomings in that it does not depict functional interdependence among settlements of different sizes in a region. Furthermore, it does not reveal the existence of certain specialized functions in some centres whose spheres of influence are nest to other centres and their hinterlands. As such there is need to characterize regional settlement systems in terms of dominant functions and their order of magnitude in its central places and clearly point to the actual and potential systematic linkages and relationships (Bendavid-Val, 1991: 164). Bendavid-Val (*ibid*) notes this is achieved through the development of a settlement function scalogram, wherein urban places in a region are listed along the left in descending order of population; with the population of each town shown

alongside its name and the functions found in urban places running along the top of the matrix. Bendavid-Val (1991) highlights that what is of special concern is the linkage among urban places relative to their functional roles, access to functions at different levels and gaps, an issue that can be resolved by combining the settlement functional scalogram results with results from accessibility studies. In this case functional analysis complements CAA. Overall, it should be noted that the value of a functional scalogram lies in its ability to determine if the supply of efficient services in urban areas is adequate, sufficiently dispersed, and sufficiently accessible; it not, the question will be: why not? (Bendavid-Val, 1991: 166). It should be noted that data for functional analysis might come from surveys or existing databases.

Accessibility studies and functional analysis only determine the level service provision available to residents and the functional interlinkages of settlements of different types and sizes in a region without necessarily ascertaining the potential economic role of settlements brought about by natural resource distribution, differentiation and labour market characteristics.

8.2.3 Regional Economic Analysis

Regional economic analysis entails a range of techniques for the practical measurement of the economic function of settlements based on difference, differentiation, and heterogeneity and their impact on the population. Measurement of the economic function of settlements is given effect by the three concepts that are lacking in accessibility and functional analytical techniques. The methods for regional economic analysis are explained in Tables 8.2 and 8.3 on the following pages.

Table 8. 2: Methods for Intraregional Analysis: Dominant Analytical Questions

Method of Intraregional Analysis	Dominant Analytical Question
Basic statistical Compendium	What are the overall economic profiles of the region's subareas and towns, and how do they compare with each other in terms of important characteristics
Income measures	What are the levels of different types of income in different parts of the region?
Social accounts	What is the relationship between income levels in different parts of the region and the different prevailing production patterns, and in turn, the values of flows across the region's borders?
Economy composition analysis	What are the relative levels of concentration or specialisation in selected characteristics or activities among different parts of the region, and what are the associated problems and consequences?
Natural resource assessments	What are the natural resources endowments of different parts of the region, and what are associated problems and potentials?
Linkage investigations	What are the major types of linkages and their magnitudes among major central places in the region?
Extended commodity trade systems analysis	What are the intraregional marketing chains of important commodities, particularly rural commodities produced for sale outside the region?
Economic base and accrual analysis	What is the relationship between outside demand for products of different areas in the region and economic expansion of those areas and of the region as a whole, based on simple multiplier relationships?
Input-output analysis	What are the inter-industry linkages and their multiplier effects among different parts of the region as related to outside demand for the region's products?
Rural-urban exchange analysis	What are the comparative rural-urban income multiplication effects associated with different agricultural commodities in different parts of the region?
Access studies	What is the degree of access of the population of different parts of the region to functions provided by the region's central places, what does this suggest about the effective demand for those functions?
Functional analysis	What are the functions provided by the region's settlement system, what sorts of hierarchical networks prevail within it, and what does this suggest about demand for those functions?
Market centre studies	What are the major trade functions of the region's market centres, and the rural areas of the region?

Source: Bendavid-Val, (1991:19)

Table 8. 3: Description of regional analysis methods

Method for regional analysis	Description
Basic statistical Compendium	This entails the gathering of wide ranging basic information about the region in concern. This information includes population statistics (population size, growth, and population composition (sex, age, and race); components of population change, median age, educational attainments, marital status etc.); household, family, and individual statistics (total housing units, owner-occupancy rate, renter-occupancy rate, vacancies, median housing values, median of selected monthly costs etc); industry characteristics (employment by industry or by occupation, average earnings per job, earnings by place of work/industry); natural physical resources (climate, environmental amenities, primary resources, such as water forestry and minerals); and built physical resources (communication, and transportation, and utility infrastructures) (Wang and vom Hofe, 2007: 147; see also Bendavid-Val, 1991: 34).
Income measures	They depict personal and community economic welfare compared over time of economic growth (Bendavid-Val, 1991). Main measure is Gross Regional Product (GRP) which can be adjusted into net regional product, regional income, regional personal income, regional personal disposable income, and regional personal discretionary income.
Social accounts	This term refers to the various methods used to analyze the economy of the regional community rather than the economic enterprise in itself and these methods include income and product accounts, balance of payments and input analysis (Bendavid-Val, 1991). Thus social accounting merely is a sequence of using these methods which helps in cross checking and estimating their data (*ibid*).
Economy composition analysis	Involves use of time series data for mix and share analysis to show components of relative change that add up to net regional change in employment by sector or industry category and also how the changes have expressed themselves in turn on employment in different types of economic activity in different sub-units of the region (Bendavid-Val, 1991: 130). Indicators that can be used are related to the location quotient namely index of concentration, distribution quotient, index of association and shift index.
Natural resource assessments	Entails resource suitability analysis (basic suitability, order of suitability, limitations of suitability, and opportunities of improving suitability) and resource depletability analysis (depletable: maintainable renewable; depletable: maintainable non-renewable; depletable: non-maintainable reusable; depletable: non-maintainable non-reusable; and inexhaustible).
Linkage investigations	There is no single too of conducting intraregional linkages which range from transportation, communication, natural resource, economic, social, public service and institutional. Key questions to be answered however entail regional exports, intermediate and consumer goods market categories (Bendavid-Val, 1991).
Extended commodity trade systems analysis	This a method suitable for dominated by rural economic activities such as agriculture, fishing and wood products by investigating critical linkages, flows and frictional factors (Bendavid-Val, 1991).
Economic base and accrual analysis	The question answered by the economic basis analysis is "What is the overall gain in employment or income in the region associated with each gain export sale?" (Bendavid-Val, 1991: 78). Indicator used is largely the base multiplier location quotient and accrual analysis as an alternative method if the region covered is relatively small and requires less extensive data collection.
Input-output analysis	It should be borne in mind that input and output analysis can provide insights into intraregional inter-industry income multiplication ramifications of the final demand of the region's product (Bendavid-Val, 1991: 155). However one should not be restrained by overwhelming efforts to find data for a thorough analysis, as the job of the analyst is to adapt the analysis to the needs of the region and available data (ibid).
Rural-urban exchange analysis	Linked to extended commodity trade analysis.

Source: Most points adopted from Bendavid-Val (1991) but modified to suit the researcher's needs. Constant reference was also made to Wang and vom Hofe (2007); Meintjes (2001) and Higgins and Savole (1997) for further illumination of methods

8.2.4 Demographic Analysis

Demographic analysis involves measuring the social, economic and physical characteristics of people which to a large extend are a product of the functions in a settlement. In turn, the social, economic, and physical characteristics of people can influence the functions of settlements. The methods for demographic analysis are shown in Table 8.4 below.

Table 8. 4: Demographic analysis methods

Method	Description
Describing actual size of population	First step of demographic analysis usually based on place of permanent residence
Calculating observable percentage changes of selected population characteristics	This can be expressed as absolute change, percent change, average annual absolute change, average percent annual change. Reasons for population change overtime are found in fertility, mortality, and out and in-migration rates.
Determining population distribution across space	Can be expressed as densities across political boundaries such as cities, townships and rural areas
Composition profiles of populations of interest	Entails age, sex and race composition
Population projections	Mainly include trend extrapolation methods (observing historic trends and projecting them into the future), cohort-component method (most commonly used method because of level of detail as it uses sex-age-specific population cohorts and adjusts them with three factors of population change: birth, death and migration), and structural methods (includes further non-demographic factors that might future population trends as employment, wage levels, and local amenities and also land-use and transportation models.
Describing social and economic characteristics of the population	Household income: Indicator of poverty through Minimum Living Level (MLV), poverty gap,
	Education: Literacy rates, teacher pupil ratio, classroom pupil ratio and extent of training facilities in an area
	Health status: Life expectancy, infant mortality, immunisation, incidence of notifiable diseases, official urbanisation and functional urbanisation rates.
	Human Development Index (HDI): Based on life expectance, literacy and income
	Labour and employment: Uses indicators such as economically active population, unemployment rate, employment rate, labour participation rate, female labour participation rate, labour dependency ratio, labour youth dependency ratio, and labour absorption capacity
	Infrastructure: Levels of access to water (levels may vary from below basic, basic, intermediate, and full), sanitation (levels may vary from below basic, basic, and intermediate/full), telephones (access varies from below basic, basic, and intermediate/full), and electricity (access varies from below basic, basic, and intermediate/full)

Source: Physical characteristics analysis methods are mostly adopted from Wang and vom Hofe (2007) and socio-economic methods from Meintjes (2001). It should be noted that they been summarized to suit the researcher's needs.

8.2.5 Land use analysis

Ascertaining the socio-economic role of settlements based on accessibility analysis, functional analysis, regional economic analysis and affiliated demographic analysis to determine the effects of the socio-economic role of settlements or *vice versa*, does not reveal the structure of the distribution of human activity on the earth‟s surface. Thus they fail to show the effects of settlement function and population on the settlement morphology and in turn the effects of the morphology on the former. Consequently land use analysis becomes essential to techniques for empirically assessing settlement patterns and trends. Land use analysis uses a set of tools that help understand how land is currently

used; what land use changes can be made in accordance with a set of rules and what the impacts are of land use changes (Wang and von Hofe, 2007: 274). The main methods of land use analysis are summarized in Table 8.5 below.

Table 8. 5: Methods for land use analysis

Methods	Description
Land Classification	• Involves showing separate human activities at different intensity levels based on ownership, structure, ground coverage or use of land. • Secondary data source might be used as a source of information on land classification such as the parcel map book which has property identification number (PIN), ownership, structures, land use types, property sources and other data for listed parcels. • Computerised data bases such as Geographic information systems (GIS) might also be used.
Land use suitability analysis	• It is conducted for each land use proposed for the future as different land uses require different land conditions and pose different impacts on the land and the surrounding areas. • Land suitability analysis is a systematic procedure for examining combined effects of related set of factors that an analyst might assumes important determinants of locational suitability (Kaiser et al, 1995 cited in Wang and von Hofe, 2007: 298). • Commonly considered factors are physical constraints as slope, soil, groundwater aquifers, and flood plains; access such as distance to roads, surface water, service lines and costs and benefits of development. • Eight steps normally are: ➢ 1) selecting a land use for analysis; ➢ 2) selecting factors to be considered and attribute values for each factor; ➢ 3) determining a score for each factor attribute; ➢ 4) weighing the factors; ➢ 5) calculating a composite score from the attribute values and weight it for each factor; ➢ 6) rank the combined scores to establish suitability levels; ➢ 7) identifying available land based on existing land uses; ➢ 8) Comparing with comprehensive plans, zoning or other land use controls to remove unavailable land. • Land suitability analysis can also be GIS based (Guidelines are given by Wang and von Hofe, 2007: 318).
Impact analysis	• Based on a systems approach since human settlement is a dynamic which needs additional resources on top of natural. • There are two analytic models namely: ➢ "carrying capacity analysis" a method used to identify the maximum amount of development without causing a breakdown to the natural or artificial system and; ➢ a "committed lands analysis" a method used to identify areas where the benefits of a proposed development exceeds cost of a development (Kaiser et al. 1995, cited in Wang and Hofe, 2007: 321)

Source: Wang and von Hofe (2007). (Modified to suit the researcher's needs)

8.2.6 Discourse analysis

The shift from modernity ushered in by the techno-economic paradigm was the harbinger for post-modernity in the late 20th century. In terms of state politics this led to „the interactive relationship between and within government and the governed; it is about the way power structures of the day and civil society interrelate to produce a civic public realm" (Swilling, 1997; cited in Rakodi, 2001).

This shift has been witnessed in the application of the synthetic theory of analyzing emerging settlement patterns and trends in terms of historical antecedents in both the developed and the developing world, including SA, in Chapters three to seven. The most notable trend since the turn of the 20th century has been the proliferation of neo-liberal macro-economic policies whose cornerstone of development policy formulation and implementation is PPPs, and the increasing role of the second and third arms of the state, namely NGOs and civil society in setting the development agenda. Equally important has been the role of individual agency in defining one‟s own destiny as demonstrated by the heterogeneous economies in both the developed and the developing world and social environments characterised by slums and informal settlements, especially in the developing world.

Likewise, the terrain of knowledge generation to inform development interventions has changed in line with state politics. The realist understanding of the problems inherent in modern societies that incline to truth and pragmatism as the state was the sole kingmaker, has lost its grip in the face of multiple and competing actors and narratives in post-modern societies. Albrechts (2003) notes that power is at the heart of every argument affecting planning, which makes it imperative for any emancipatory planning approach to focus on conflict and power relations and communicative, people-centred practices. This is in view of the fact that power can be used to emancipate and enable, as well as to oppress and exclude others (*ibid*). In planning, attempts to gain a deeper understanding of power were heralded by the argumentative turn in planning policy analysis and planning. This points to:

> studies using methods, such as interpretive analysis, the analysis of policy discourse and narratives, the socio-linguistic analysis of practitioners‟ stories, or the careful description and interpretation of the democratic qualities of policy deliberation, that had sprung everywhere in policy planning (Hajer and Wagenaar, 2003: xiv).

In this respect, one notes that there is acknowledgement of discourse analysis in planning debates as a way of understanding power relations. A discourse, as Riggins (1997), quoting Fairclough (1995: 56) notes, is „a systematic, internally consistent body of representations‟, the „language used in representing a given social practice from a particular point of view‟. Discourse analysis acquires a critical dimension when the focus is on the relationship between language and power and privilege (Riggins, 1997). The goal of discourse analysis is to provide a detailed description, explanation, and critique of the textual strategies writers use to naturalize discourses, that is, to make discourses appear to be common sense, apolitical statements (van Dijk, 1993, cited in Riggins, 1997).

Most empirical studies in planning have been influenced by Foucault‟s power and discourse theory. Although discourse analysis using Foucault‟s framework of the relationship between power and discourse is useful to analyze unbalanced power relationships, the shortfalls of Foucault‟s theory cannot go unmentioned. Tait and Campbell (2000) point out that Foucault‟s work has been criticized for its conceptual gap between abstract theory and the study of concrete political events, particularly at the local contextual level. This is particularly so because Foucault treats discourses as objects, which draws attention away from the practices and contexts in which they are embedded (Potter, 1996, cited in Tait and Campbell, 2000). Central to the argument by Tait and Campbell is the fact that abstract discourses are seen to interact with other discourses without considering the other ways in which discourses are constructed. Tait and Campbell argue that Foucault neglected the relations between discursive and non-discursive practices; hence theories of power and discourse do not consider how discursive practices are influenced by non-discursive and material practices.

Hajer (1995) also argues that, contrary to the dominant view in the social sciences of the dialectical relationship between structure and agency, Foucault failed to acknowledge individual strategic action and thus the role of the subject in discourse production and reproduction. Foucault viewed individuals as being constructed by regimes of power, rejecting the idea of a free individual; hence ignoring interpersonal discursive interaction (Hajer, 1995). In this regard, it is important to note Hajer‟s Argumentative Discourse Analysis (ADA) that considers Giddens‟ 1984 theory of the duality of structure. In Giddens‟s structuration theory, individuals are viewed as acting within the structures of a given society; the relationship between structure and human agency is dialectical and hence acts of power are only brought about through the relationship between individuals and societal structures (Hajer, 1995).

To counter the shortcomings of Foucault‟s discourse theory Hajer‟s version of discourse analysis is mainly used for purposes of analysis in this research. Hajer (1995) refers to his version of discourse analysis as ADA. Hajer‟s approach to discourse analysis is largely influenced by the work of Foucault, but, unlike Foucault, Hajer emphasizes the role of human agency in the formation of discourse. Hajer‟s approach has mainly been used in the examination of environmental and planning policy, by Hajer himself and by other scholars such as Healey (1999) and Sharp (1999). Hajer‟s framework of ADA is based on three modes of interrogating discourses, namely, the terms of policy discourse (the story lines, policy vocabularies, and epistemic notions); the formation of discourse coalitions around the story lines; and the analysis of particular institutional practices in which discourses are produced. The framework is highlighted in Table: 8.6 on the following page.

Hajer‟s framework of discourse analysis was used by Musvoto (2007) in his analysis of counter hegemonic tendencies of CBOs in the SDB. Musvoto used the ADA framework and discovered the magical powers of language in emancipating and positively transforming the communities disadvantaged by the powerful stakeholders in urban governance. Through a case study of SDCEA, a CBO fighting for community environmental rights violated by petrochemical industries, particularly, SAPREF, ENGEN and Mondi, Musvoto highlights how CBOs, used language and practices to expose community environmental problems which in turn led to remedial action on the part of both the state and the business community. The methods for practically measuring discourses within the ADA framework are shown in Table 8.6 below.

Table 8. 6: Hajer's Framework of ADA

Method	Description
Terms of policy discourse	• Hajer refers to „terms of discourse‟ as the way biases are structured in textual utterances. Divides them into three layers: story lines, policy vocabularies and epistemic notions. ➢ Story lines: Story lines are defined as (crisp) generative statements that bring together previously unrelated elements of reality (Hajer (1995). ➢ Policy vocabularies are sets of concepts structuring a particular policy consciously developed by policy makers Hajer (2003) ➢ Hajer (2003: 106) refers to epistemic notions as regularity of thinking of a particular period, structuring the understanding of reality without actors being necessarily aware of it. ➢ Epistemic notions „resemble a state of mind‟ or what Foucault calls a „positive unconscious‟ of knowledge: certain rules of formation that underpin theories /policies but that are not formulated in their own right‟ (Foucault, 1970: xi, cited in Hajer 2003: 106).
Discourse Coalitions	• Hajer (1995: 65) defines discourse coalition as an ensemble of a set of story lines; the actors who utter these storylines, and the practice in which the discursive activity is based all organized around a discourse. • Discourse coalitions are formed if previously independent practices are related to one another through the uniting force of a shared story line and its associated discourse (ibid.).
Practices	• Thus practices depict activities institutions and actors embark on in order to produce a certain discourse with authority. This might be any form of research or the monopolization of knowledge. • Hajer (2005) argues that the concept of practice is largely informed by the Wittgenstein philosophy of language, which stresses that linguistic utterances cannot usefully be understood outside the practices which they are uttered.

Source: Adopted from Hajer, (1995; 2003; 2005)

In the context of the synthetic method for analyzing emerging settlement patterns and trends it is therefore imperative to analyze the various past and present discourses shaping settlement development policies and priorities in order to come up with a futuristic perspective. Using the framework of Hajer outlined above it is possible to identify discourses that have been institutionalized and hence those that are most influential in shaping past, present and future settlement patterns and trends. Considering that discourse analysis takes a critical stance towards the truth, the sustainability and value of institutionalized development policies and projects can only be judged against the results of settlement function analysis (accessibility and functional and regional

economic analyses), demographic analysis and land use analysis. Likewise a synthetic methodology for empirically analyzing emerging settlement patterns and trends is made up of settlement functional, demographic, land use and discourse analyses.

It should be borne in mind that these key structuring methods and techniques which make up the synthetic methodology have their own shortcomings; however, considering their multilayered nature, their strengths at the top layer exceed their weaknesses at the top layer. A more recent example is that of discourse analysis where the weakness in Foucault‟s method brought about by the gap between the structures of society and individual agency is redressed by the concept of practice central to the adopted framework of discourse analysis, ADA, championed by Hajer.

Another key issue regarding the empirical techniques for assessing settlement patterns and trends is the base year used in empirically applying the method to historical antecedents and the time span of its future projections. The researcher argues that it is instructive to first apply the synthetic theory to historical antecedents concerning settlements in a given context before a base year can be established one or two periods before the last strategic plans. This is in view of strategic planning development approach which is dominant in both the developed and the developing world. As such the base year might date from the starting point of one or two previous strategic plans and their expected future and short-to-medium and long-term plans.

It should be noted that there are no hard and fast rules regarding the historical base year to begin an empirical synthetic analysis of settlement patterns and trends as, development challenges vary in time and space. What should be borne in mind is that any empirical assessment of emerging settlement patterns and trends should have a historical base year, for, „Settlements develop within a social formation, without break, by a duplication of the elements of a preceding formation‟ (Susser, 2002: 20).

8.3 Conclusion

This chapter has developed synthetic empirical techniques for the practical measurement of settlement patterns and trends through the translation of theses and anti-theses of the key structuring concepts of settlements, namely, function, population and morphology into tools and techniques for measuring their present states. The next chapter applies the methodology to the case study of KZN province as a way of testing the hypothesis; in the process, it also operationalizes the core objective of this research study; assessing settlement patterns and trends to guide the formulation of sustainable settlement development plans.

9. Chapter Nine: Analysis and Results from the KZN Case Study

9.1 Introduction

This chapter presents the results and analyses from an empirical synthetic analysis of settlement patterns and trends from the selected case study area of EThekwini Municipality in KZN province, using 1996 as the base year. The year 1996 was chosen as it is the year the first census was conducted in post-apartheid SA. As such, it provides a rich base year for monitoring settlement patterns and trends since the dawn of democracy in SA. As noted earlier in Chapter one in the section explaining the methodology adopted by this research study, the metropolitan municipality of EThekwini is made up of settlement typologies which represent settlement in the province of KwaZulu-Natal at large, based on historical and present social, economic and political forces that shaped settlement patterns and trends. The settlement typologies that make up the metropolitan municipality are formal established areas previously exclusively for Whites under apartheid; long established townships, most with backyard shacks and pockets of informal settlements formally for exclusive Black or Indian occupation under apartheid; new Reconstruction and Development Programme (RDP) townships; informal settlements within established formal areas; informal settlements located at the periphery; and peri-urban and rural settlements. All these settlement typologies reflect past and present KZN and South African history at large – they illustrate apartheid spatial segregation and affiliated border industry policies, traditional African authority, post-apartheid rapid urbanization and the RDP. Furthermore, as noted earlier, the urban system in EThekwini Municipality is a mirror image of the urban system in KZN province and also SA at large as it is made up of a range of town centres with a variety of dynamics for growth potential.

The main objective of this chapter is to demonstrate the use and implementation of the synthetic methodology of empirically assessing emerging settlement patterns and trends to guide sustainable settlement development plans. In the process of achieving this overall objective, the hypothesis postulated at the beginning of this research study is also tested.

The chapter is based on both secondary and primary data sources with the unit of analysis being the metropolitan municipality which is further disaggregated into planning units and wards as per the Municipal Demarcation Act of 2000‟s differentiation. This administrative differentiation also shows the various settlement typologies reflecting past and present trends and patterns. Secondary data for demographic analysis are drawn from the 1996 and 2001 censuses conducted by Statistics South Africa, as well as the Community Survey of 2007 conducted by the same entity. Economic analysis is also based on the 1996 and 2001 censuses and 2007 Community Survey data. Functional analysis,

the aim of which is to assess the functions offered by the selected case studies‟ settlement systems to ascertain demand for functions is based on Braby‟s Business Directory. Braby‟s (Pvt) was established in 1904 as a business directory and provides information on businesses, community, government and recreation and entertainment functions offered by settlements. Accessibility analysis in the EThekwini Metropolitan area is based on a series of accessibility studies undertaken by the Centre for Scientific and Industrial Research (CSIR) on behalf of EThekwini Municipality in 2001, 2006 and from 2008 to 2010. The studies were based on techniques such as catchment area analysis, proximity counting and optimization. Land suitability analysis in the geographic sense entails examining a combination of the effects of factors such as slope, soil, groundwater, distance to roads and service lines. However, in this research study it is tailored to mean ascertaining government spatial development priorities in relation to the characteristics of the population, economic dynamics and functional settlement systems. This stems from the basic understanding that settlements are made up of people (population) and economic and functional dynamics which make it imperative for any sustainable settlement development plan to take cognisance of the three interrelated factors. The secondary data sets outlined above allowed an in-depth analysis of all the settlements in EThekwini Municipality which were differentiated into 100 wards.

Primary data in this research, as noted earlier, were obtained based on a selected single typical settlement typology in EThekwini Municipality representing categories in the range of settlement typologies that make up EThekwini Metropolitan Municipality; these are a reflection of the range of settlement typologies in KZN at large. The range of typologies in the municipality are formal established neighborhoods; long established townships, most with backyard shacks and pockets of informal settlements; new townships (bond and RDP housing); informal settlements within and around established areas; informal settlements on the periphery; and peri-urban and rural settlements at the periphery. The case study areas chosen for primary data collection were Berea (formal), Umlazi (long established township with backyard shacks and pockets of informal settlements), Cato Crest (informal settlements within established areas), Fredville (informal settlement at the periphery), Folweni (peri-urban area at the periphery) and Umbumbulu (peri-urban settlement at the periphery).

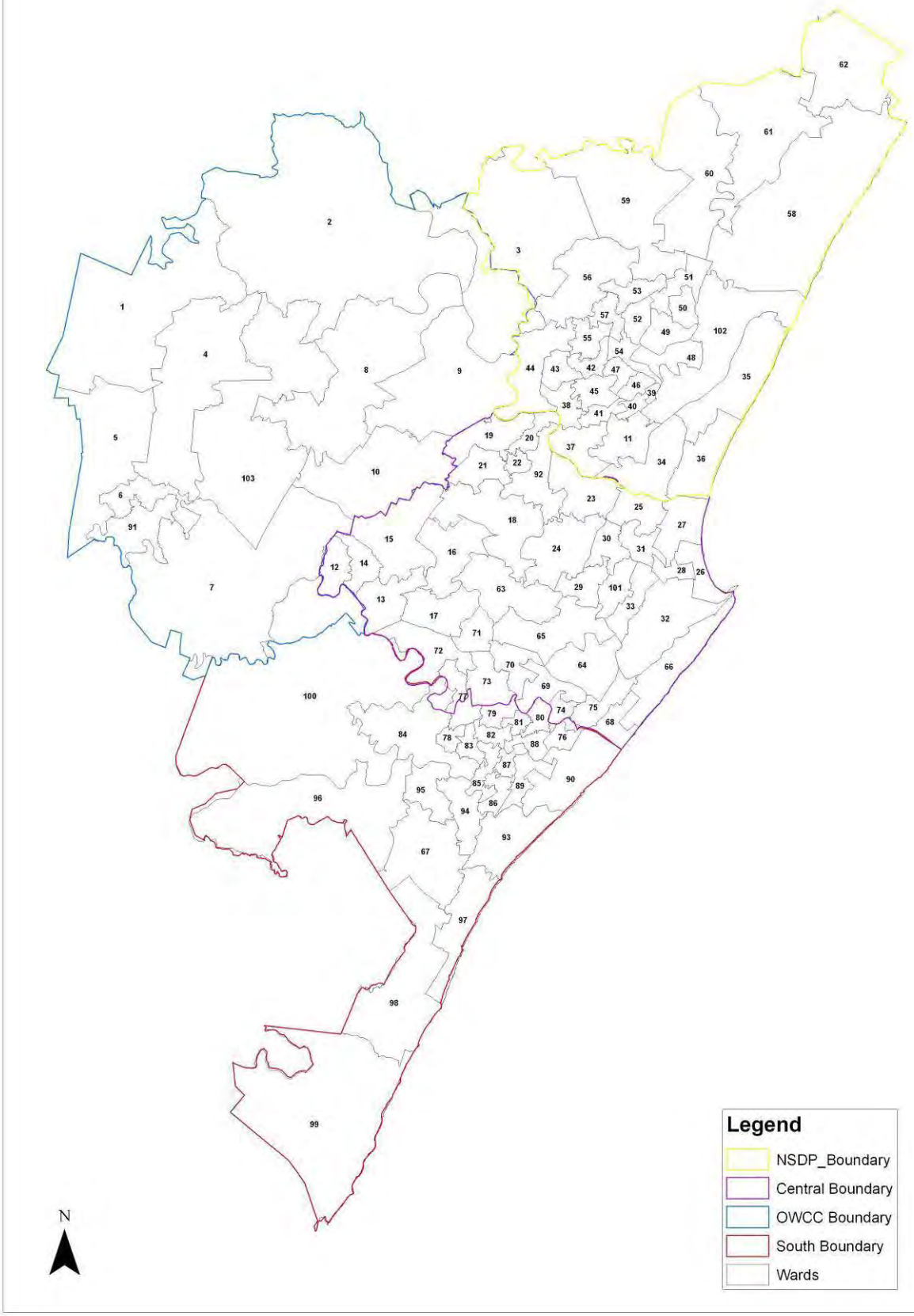
In-depth semi-structured interviews and focus group discussions (FGDs) with various stakeholders and key informants in the case study areas who in most instances were ward committee members and members of the stakeholder forums in the IDP process were conducted. Considering that all settlement development programmes and projects at a local level have been occurring through the IDP process since the year 2000, this group of people is inherently best positioned to complement

secondary data sources in the analysis. Furthermore, primary data were also obtained through in-depth semi-structured interviews with the head of the Planning Department of EThekwini Municipality as well as planners responsible for steering and coordinating the formulation of IDPs for the four functional regions of EThekwini Municipality. In-depth semi-structured interviews were also conducted with the head of the Economic Development Unit of EThekwini Municipality.

9.2 EThekwini Metropolitan Municipality

The current EThekwini Municipal boundaries were given effect by the municipal demarcation of 2000 which promulgated 100 wards in the municipality on the basis of an equitable and fair spread of voters, easy access to voting stations for people living within the ward and people sharing a sense of community, as per the requirements of the Municipal Structures Act of 2000. Furthermore EThekwini Municipality is divided into four functional regions, namely, Outer West (OWCC), North (NSDP), Central, and South for planning purposes. Each of these regions has planners assigned by the Planning Department of EThekwini Municipality who steer and coordinate development. At a micro level, EThekwini Municipality is further sub-divided into 404 planning units. This analysis however, is based on wards and functional regions as the former is the smallest enumeration type area for census data from Statistics South Africa and the latter the basis for Integrated Local Spatial Development Plans which are tied to the broader IDP for the whole metropolitan municipality. Figure 8.1 below shows the wards and functional regions in EThekwini Municipality. From the figure it can be discerned that the wards vary in shape, size and area, as well as number per functional region. This is largely due to variations in population density and topography.

FIGURE 9. 1: ETHEKWINI MUNICIPALITY WARDS AND FUNCTIONAL REGIONS



The wards, suburbs/place names and political representation in the local municipality are shown in Tables 9.1; 9.2; 9.3 and 9.4 below respectively.

Table 9. 1: Outer West Region Wards, Place Names and Political Representation

Ward	Suburb/Place name	Political representation
1	Ximba, Bhonobhono	African National Congress (ANC)
2	KwaNyuswa, Ngcolosi	ANC
4	Hammarsdale, Inchanga	ANC
5	Georgedale, Sankotshe	ANC
6	Mpumalanga North	ANC
7	Shongeni,	ANC
8	Botha's Hill	ANC
9	Hillcrest, Forest Hill, Molweni	ANC
10	Kloof, Gillitts	Democratic Alliance (DA)
91	Mpumalanga Township	ANC

Source:EThekwini Municipality (2011)

Table 9. 2: North Function Region Wards, Place Names and Political Representation

Wards	Suburb/Place name	Political representation
3	Verulum, Mzinyathi	ANC
11	Newlands, KwaMashu	ANC
34	Effingham/Kenville	DA
35	Umhlanga Rocks, La Lucia	DA
36	Durban North	ANC
37	Newlands West	ANC
38	Ntuzuma/Lindelani	ANC
39	KwaMashu	IFP
40	KwaMashu B	ANC
41	KwaMashu C	ANC
42	Ntuzuma/Inanda	ANC
43	Ntuzuma/KwaMashu/Lindelani	ANC
44	eMachobeni/Inanda	ANC
45	Ntuzuma B/KwaMashu	ANC
46	KwaMashu F and G	ANC
47	KwaMashu M	ANC
48	Phoenix Industrial	DA
49	Phoenix	DA
50	Foresthaven, Phoenix	ANC
51	Shastri Park, Ottawa	ANC
52	Westham, Brookdale	ANC
53	Terence Park, Amaoti	ANC
54	Mzomusha, New Town C	ANC
55	New Town B, Ntuzuma	ANC
56	Gogokazi, Amatikwe B	ANC
57	Newtown, Ohlange Township	ANC
58	La Mercy, Umdloti	ANC
59	Terence Park, Buffelsdraai	ANC
60	Dawncrest, Redcliffe	ANC
61	Emona, Mithanagar	ANC
62	Sandfield, Hambanathi, Maidstone	ANC

Source: EThekwini Municipality (2011)

Table 9. 3 Central Function Region Wards, Place Names and Political Representation

Wards	Suburb/Place name	Political representation
12	KwaNdengezi	ANC
13	Dassenhoek, Marianhill	ANC
14	Namibia, Dassenhoek	ANC
15	Mpola, Tshelimnyama	ANC
16	Pinetown South ward	ANC
17	Crossmoor, Shallcross	ANC
18	Westville, Pinetown, Cowies Hill	DA
19	Wyebank/Clermont	ANC
20	KwaDabeka	ANC
21	New Germany/Clermont	ANC
22	Clermont	ANC
23	Reservoir Hills/Clare Estate	ANC
24	Westville/Chesterville	ANC
25	Springfield, Roseglen, Overport	ANC
26	South Beach/North Beach	ANC
27	Morningside/Greyville	DA
28	Central Business District (CBD)/Durban University of Technology	ANC
29	Cato Manor/Chesterville	ANC
30	Sherwood/Chesterville	ANC
31	Berea/Overport	DA
32	CBD/Clairwood	ANC
33	Glenwood/Umbilo	DA
63	Malvern, Escombe	DA
64	Yellowwood Park Montclair, Woodlands	DA
65	Hillary, Mount Vernon, Coedmore, Umhlatuza	DA
66	Bluff, Brighton Beach, Grosvenor	DA
68	Wentworth, Jacobs, Merewent	DA
69	Havenside, Mobeni Heights	ANC
70	Westcliff, Woodhurst, Bayview	MF
71	Shallcross, Bottlebrush	DA
72	Resecliff, Demat	ANC
73	Arena Park, Montford, Croftdene	MF
74	Lamontville	ANC
75	Clairwood, Mobeni	ANC
77	Umlazi Welbedacht	ANC
92	Atholl Heights, Chiltern Hills	IND

Source: EThekwini Municipality (2011)

Table 9. 4: EThekwini South Region Wards, Place Names and Political Representation

Ward	Suburb/Place name	Political representation
67	Adams Mission	ANC
76	Umlazi V	ANC
78	Umlazi K	ANC
79	Umlazi F and G	ANC
80	Umlazi	ANC
81	Umlazi C	ANC
82	Umlazi R and N	ANC
83	Umlazi L and M	ANC
84	Umlazi K	ANC
85	Umlazi Z	ANC
86	Umlazi U and Y	ANC
87	Umlazi Q	ANC
88	Umlazi S	ANC
89	Isipingo Hills	ANC
90	Prospecton, Isipingo Beach, Lotus Park	MF
93	Umbogintwini; Ezimbokodweni	ANC
94	KwaMakhuta, Emansomi	ANC
95	Folweni B and C	ANC
96	Amanzimtoti, Doonside, Winkelspruit	ANC
97	Folweni A	DA
98	Illovu, Umgababa	ANC
99	Umkomaas, Craigieburn	ANC
100	Umbumbulu	ANC

Source: EThekwini Municipality (2011)

In the four functional regions, the wards cover different settlement typologies which reflect pre-1994 and post-1994 social, economic and political forces that have influenced settlement patterns and trends in EThekwini Municipality. Four main types of residential area can be identified, namely, the old township residential stock, formal private stock, RDP township residential housing stock, and informal residential housing stock. Furthermore, the promulgation of „wall to wall" municipalities in terms of the Municipal Demarcation Act of 2000 meant that the metropolitan municipality embraced some peri-urban and rural areas.

The old long-established townships include Chesterville (EThekwini Central Region, ward 29), Umlazi (EThekwini South Region, wards 76-88), KwaMashu (Durban north, wards 39, 40, 41, 43, 44 and 45), Mpumalanga (Outer West Region, ward 91) and Phoenix (North Region, ward 49). The RDP township stock includes Cato Manor (EThekwini Central Region, ward 29), Welbedacht

(EThekwini South Region, ward 77), Illovu (EThekwini South Region, ward 98) and Waterloo. Examples of private formal established residential settlements include Berea (EThekwini Central Region, Ward 10), Umhlanga (EThekwini North Region, Ward 35) and Amanzimtoti (EThekwini South, ward 47). Informal settlements in EThekwini Municipality can be divided into two categories. There are those within and around formal established residential areas such as Cato Crest (EThekwini Central, ward 101), Folweni (EThekwini South, wards 95 and 96), Bhambayi (EThekwini North Region), and St Wendolins. Informal settlements in the periphery include Fredville, Cottonlands and Amalongwa. The peri-urban and rural settlements include Umbumbulu (EThekwini South Region ward 98), Inchanga (Outer West Region), and Ximba (Outer West, ward 1).

Within these various residential area typologies are business centres of various categories. These include the old established Durban CBD in the Durban Central Region where there is a hive of both formal and informal activities, the long established satellite town of Pinetown (also within the Durban Central Region), sub-urban business centres, such as such as Umhlanga in the north and Hillcrest in the Outer West, ex-urban shopping malls such as Gateway in the North Region, sub-urban shopping malls like the Pavilion in EThekwini Central Region and many others.

9. 2.1 EThekwini Metropolitan Municipality Demographic Analysis

9.2.1.1 Population Projections in EThekwini Municipality

Population increase/decrease in localities is a function of three main factors: fertility rates (the number of children women give birth to during their fertile life periods), mortality rates (death rates) and migration (net migration). These three components are also the primary basis for population projections. The basic population projection equation states that future population growth equals population last year, minus population in the previous year. This means that the annual growth rate of population is given effect by the way the three components of population, namely, migration, mortality and fertility affect cohorts of a given population differently. However, worldwide, it has proved difficult to obtain information and data to make assumptions for each population cohort as well as the whole population.

In the case of EThekwini Municipality for instance, the migration component of the population is difficult to obtain at the inter-ward and inter-functional region level. However, at a broader scale, some light can be shed by estimates from Statistics South Africa on international and inter-provincial migration. From Table 9.5 below it can be discerned that net migration flows into South Africa have

increased steadily, mainly due to migrants from African countries. Thus one can also assume that KZN has its share of immigrants. These assumptions were confirmed by interviews with key informants in the formal established suburb of Berea in Durban and in the Cato Crest informal settlement within formal established areas, where it was noted that there has been a steady increase in Africans immigrants settling in these areas since 2001. Specific reference was made to immigrants from Zimbabwe occupying old decaying houses in the Berea area formerly exclusively occupied by Whites during the apartheid era. This development was ascribed to two processes. The first is the increase in the number of immigrants from Zimbabwe in SA because of the political and economic turmoil in that country and the second is the movement of Whites from old suburban apartheid neighbourhoods to ex-urban neighbourhoods such as Hillcrest and Umhlanga in EThekwini Municipality.

Table 9. 5: Net International migration assumptions by Statistics South Africa between 1991 and 2010

Period	Non-African	African	Total
1991 - 1995	-284000	81000	-203000
1996 - 2000	-325000	145000	-180000
2001-2005	-139000	192000	53000
2006-2010	-48000	205000	157000

Source: Robinson and McCarthy (2007)

Table 9.6 below shows inter-provincial migration between 1996 and 2001 in South Africa. The table shows that KZN did not gain population from inter-provincial migration, but rather had a negative loss of 56,769.

Table 9. 6: Interprovincial Migration: 2001 Census: 1996 - 2001

Province of previous residence	Province of current residence										
	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	Northern Cape	North West	Western Cape		Total out-migrants
Eastern Cape		16686	89487	59114	6358	9983	4113	21093	141386	1590	349810
Free State	8679		59588	8479	4396	6936	6335	19986	12942	722	128063
Gauteng	28743	24840		43928	38747	34151	6742	52854	57540	2756	290301
KwaZulu Natal	18160	8849	132020		7076	18673	1839	7905	24474	2046	221042
Limpopo	2735	4146	170205	5159		37529	1394	21175	5139	983	248465
Mpumalanga	3231	5716	88367	11163	17877		1474	11467	5956	691	145942
Northern Cape	2948	7581	11033	1856	1716	1421		7428	21140	308	55431
North West	4264	10225	107992	4380	11504	6303	16278		6989	819	168754
Western Cape	26522	5144	32279	9232	2515	3133	9365	3713		1168	93071
Undetermined	15876	9448	44580	20962	6181	6665	2246	5615	19296	1271	132140
Total in-migrants	111158	92635	735551	164273	96370	124794	49786	151236	294862	12354	
Net in-migrants	-238652	-35428	445250	-56769	-152095	-21148	-5645	-17518	201791	-119786	

Source: Statistics South Africa (2002)

However, it should be noted that although the figures from Statistics South Africa show that the province of KZN has not attracted many immigrants from other provinces, significant migration from provinces such as Limpopo, Free State, and Western Cape into peripherally located peri-urban and rural settlements like Folweni and Umbumbulu was noted. Key informant interviews and FGDs noted significant migration into these areas by Xhosa-speaking people from the Western Cape. Furthermore, migration from other provinces of SA into peripherally located informal settlements and those within established areas was noted. This was due to the multilingual nature of Fredville and Cato Crest informal settlements, which were chosen as typical settlements for primary data collection.

Estimates of mortality in SA are shown in Table 9.7 below as per the Actuarial Society of South Africa (ASSA) and Statistics South Africa for the period 1985 to 2015. Although the ASSA estimates are the ones with complete time series estimates, the table clearly shows that life expectancy for both males and females dropped from roughly 56 and 64 years in 1985 to 41 and 44 years respectively by 2006.

Table 9. 7: ASSA 2003 and Statistics SA estimates of life expectancy

Period	ASSA 2003		Statistics South Africa	
	Male	Female	Male	Female
1985 – 1990	56.2	64.6		
1990 – 1995	55.6	64.3		
1995 – 2000	51.5	59.2		
2000 – 2005	44.3	48.7		
2001 – 2006	43.2	47.1	41	44
2005 – 2010	41.9	44.4		
2010 – 2015	42.7	44.5		

Source: Robinson and McCarthy (2007)

The drastic drop in life expectancy was confirmed in most settlements where the African population sub-group is predominantly domiciled, especially in established townships and peri-urban settlements such as Umlazi and Folweni. Some of the key informants in these areas even argued that life expectancy in the areas might be as low as 35 five years. Particularly in the case of Folweni, it was noted that unprotected sex was rife among teenagers of primary and secondary school-going age which resulted in high levels of teenage pregnancies and HIV/AIDS. The mortality estimates from ASSA and Statistics SA are understandable in the face of scourge of HIV/AIDS. The deleterious effects of HIV/AIDS on life expectancy in EThekwini Municipality are shown in Table 9.8 below, adopted from the municipality‟s Economic Development Department.

Table 9. 8: AIDS Deaths, HIV Positive and Other Deaths for Metro Area

Year	AIDS Deaths	Other Deaths	Total Deaths	HIV Positive	New HIVs
1995	1,872	24,313	26,185	108,527	
1996	3,213	24,825	28,038	161,120	55,806
1997	5,167	25,747	30,914	220,240	64,287
1998	7,806	26,541	34,347	278,818	66,384
1999	11,259	26,832	38,091	332,716	65,157
2000	15,404	25,963	41,367	379,192	61,880
2001	20,065	25,876	45,941	418,055	58,928
2002	24,989	25,787	50,776	450,514	57,448
2003	29,888	25,689	55,577	476,450	55,824
2004	33,708	25,579	59,287	496,631	53,889
2005	36,217	25,464	61,681	512,691	52,277
2006	38,205	25,320	63,525	525,085	50,599
2007	39,578	25,148	64,726	534,636	49,129

Source: Source: Economic Development Department cited in NDA Consulting Engineers cc (2010)

The table above shows that while there has been a decline in new HIV infections on the one hand, there was a significant increase in AIDS related deaths between 1995 and 2007 on the other. The increase in AIDS deaths can be attributed to the maturation of earlier infections and thus a gradual decline in future deaths can also be result from the decline in new infections.

In terms of the other component of population namely, fertility; the fertility rates estimates for South Africa and for the different provinces are shown in Tables 9.9 and 9.10 respectively below.

Table 9. 9: Actuarial Society South Africa and Statistics SA estimates on Fertility

Period	ASSA 2003	Statistics SA
1985-1990	4.34	
1990-1995	3.82	
1995-2000	3.23	
1998	3.11	
2000-2005	2.77	
2001-2006	2.67	3
2003	2.72	
2005-2010	2.55	
2010-2015	2.39	

Source: Robinson and McCarthy (2007)

Table 9. 10: Demographic and Health Surveys Estimates of total Fertility Rates per Province

Province	1998	2003
Western Cape	2.3	2.6
Eastern Cape	3.5	2.2
Northern Cape	2.7	2.8
Free State	2.2	2
KwaZulu Natal	3.3	0.6
North West	2.4	2.5
Gauteng	2.3	2.3
Mpumalanga	3.1	2.3
Limpopo	3.9	2.7
Urban	2.3	2
Rural	3.9	2.1
National	2.9	2

Source: Robinson and McCarthy (2007)

From Table 9.9 one notes that the fertility rate is expected to decline from 4.34 between 1985-1990 to 2.39 in 2015; according to ASSA estimates. Statistics SA estimates place fertility at 3.00 between 2001 and 2006. At the provincial level, the Demographic and Health Surveys estimates in Table 9.10 show disparities between estimates for rural and urban areas in 1998 and 2003. At a provincial level, rural fertility was estimated at 3.9, compared with 2.3 in urban areas, and in 2003 it was estimated at more or less the same, 2.1 for rural areas and 2.0 for urban areas. For KZN, fertility rates were pegged at 3.3 in 1998 and a low of 0.6 in 2006.

It is in the context of these three components of population: migration, mortality and fertility that a future perspective on population in KZN should be understood. These figures are estimates based on a set of assumptions and therefore not cast in stone. However, they shed light on the context of population components nationally, provincially and at the local municipal level.

According to Statistics South Africa EThekwini Municipality had a total population of 2,751.193 in 1996, which increased to 3,090,215 in 2001, a percentage change of 12.32 as shown in Table 9.11 below.

Table 9. 11: Total Population EThekwini Municipality

	1996	2001	Percentage population change
Total Population	2751193	3090215	12.32

Source: Statistics South Africa (2002)

Global Insight (2008) estimated that the population of EThekwini Metropolitan Municipality would grow from roughly 3,090 million in 2001 to 3,276 million in 2005 and 3,497 million in 2030 which is an average annual growth rate of 0.25%. Differential annual growth rates at five year intervals from 2005 to 2035 for the metropole are shown in Table 9.12 below, adopted from Global Insight.

Table 9. 12: EThekwini Metropolitan population Growth rates per annum

2005	2010	2015	2010	2025	2030	2035
0.25	0.15	0.42	0.3	0.21	0.1	

Source: Global Insight (2008)

Table 9. 13: Population projections in EThekwini Municipality between 2001 and 2035

Year	1996	2001	2005	2010	2015	2020	2025	2030	2035
Total Population	2751193	3090215	3 276 000	3316950	3341827	3412005	3463185	3499548	3517045

Table 9.12 above shows fluctuations in annual growth rates, which are understandable given the volatile context of population components. It clearly shows relatively low growth rates in the face of HIV/AIDS and a concomitant low life expectancy. Based on the growth rates, estimates for EThekwini Municipality"s population between 2005 and 2035 are shown in Table 9.13 above.

9.2.1.2 Population Growth in the EThekwini Municipality Functional Regions

From Table 9.14 below, it can be discerned that in the Outer West Region of EThekwini Municipality population per ward in 1996 ranged from 13,250 to 41,641, with Hammarsdale/Inchanga (ward 4) recording the lowest population and Mpumalanga Township (ward, 91) the highest.

Table 9. 14: Population Distribution per Ward in the Outer West Region EThekwini Municipality

Place Name	Ward	Population		% Population Change
		1996	2001	
Ximba, Bhonobhono	1	41202	30168	-26.78
KwaNyuswa, Ngcolosi	2	25686	37323	45.3
Hammarsdale, Inchanga	4	13250	34932	163.64
Georgedale, Sankotshe	5	34478	33025	-4.21
Mpumalanga North	6	26651	26535	-0.44
Shongweni	7	19428	29432	51.49
Botha's Hill	8	20691	32942	59.21
Hillcrest, Forest Hill, Molweni	9	30256	32191	6.4
Kloof, Gillitts	10	19704	19684	-0.1
Mpumalanga Township	91	41641	41177	-1.11
Total		**272987**	**317409**	**16.27**

Source: Statistics SA (2002)

The most populous area in 1996 was Ximba/Bhonabhona (ward 1) which had a population of 41,202 nearly the same as Mpumalanga, followed by Georgedale/Sankotshe (ward 5), which had a population of 34,478, Hillcrest/Forest Hill/Molweni which had a population of 30,256. Mpumalanga North (ward 6), KwaNyuswa/Ngcobosi (ward 2), Shongweni (ward 7), Botha‟s Hill (ward 8) and Kloof/Gillitts (ward 5) had populations of 26,651, 25,686, 19,428, 20,691 and 19,704 respectively. Between 1996 and 2001 the areas in the Outer West fared differently in terms of population change, with some recording excessive growth rates and others negative growth as shown in Table 9.14 above. The areas that recorded negative growth rates are Ximba/Bhonabhona (ward 1 (28.7%); Georgedale/Sankotshe (ward 5 (- 4.21), Mpumalanga North (ward 6 (-0.44), Kloof/Gillitts (ward 10 (-1.0) and Mpumalanga Township (ward 91 (-1.11). The other remaining areas recorded increases ranging from 6.4% (Forest Hill/Molweni, ward 9) to 163.6% (Harmarsdale/Inchanga, ward 4). Overall, the most populous area is Mpumalanga Township (ward 91) although it recorded negative growth between 1996 and 2001.

The differential population growth rates among different settlement typologies in the Outer West region can be explained by various migration streams that were noted during focus group discussions and interviews with key informants from the different settlement typologies chosen as representative samples for primary, in-depth study. For example, migration was noted from deep rural areas within KZN province and other provinces such as Western Cape into peripherally located informal

settlements. This is the reason given for the tremendous growth of the population in ward 4 where Inchanga, a peripherally located informal settlement of EThekwini Municipality, is located. Another trend noted during interviews was the movement of people from established townships such as Mpumalanga in the Outer West to rural areas on the fringe of the metropolitan area because of cheaper rates and less crime, among other pull factors. This might be the explanation for the population loss experienced by Mpumalanga between 1996 and 2001. This trend was specifically noted in the case of Umbumbulu, a rural settlement in the peripheral South of EThekwini Municipality where the recent increase in the cost of living in town brought about by recent economic recession has led to the area receiving migrants from established townships such as Umlazi.

In the North region of EThekwini Municipality, population per ward in 1996 ranged from 14,150 (in KwaMashu, ward 39) to 48,786 (in Terrence Park/Buffelsdraai, ward 59) in 1996 as shown in Table 9.15 below. Between 1996 and 2001 most of the wards in the North region (28 wards) of EThekwini Municipality recorded positive growths that ranged from 0.16 (KwaMashu M, ward 47) to 73.88 (Verulum/Mzinyathi, ward 3). Only three areas recorded negative growth, namely, Umhlanga Rocks/La Lucia (ward 35), Phoenix (ward, 49) and Gogokazi/Amatikwe (ward 56) of -8.5%, -1.17% and -2.06% respectively. Overall, the North region of EThekwini Municipality had a population of 1,039,130 in 1996 which increased to 1,112,534 in 2001 a percentage change of 7.06%.

Table 9. 15: Population Distribution per Ward in the North Region of EThekwini Municipality

Suburb/Place name	Ward	Population		% Population Change
		1996	2001	
Verulum, Mzinyathi	3	24238	42144	73.88
Newlands, KwaMashu	11	31817	38707	21.66
Effingham/Kenville	34	25815	41160	59.44
Umhlanga Rocks, La Lucia	35	27067	24766	-8.5
Durban North	36	24097	25615	6.3
Newlands West	37	35928	48134	33.97
Ntuzuma/Lindelani	38	24446	30307	23.98
KwaMashu	39	14150	18321	29.48
KwaMashu B	40	25743	26359	2.39
KwaMashu C	41	19954	21055	5.52
Ntuzuma/Inanda	42	32109	38027	18.43
Ntuzuma/KwaMashu/Lindelani	43	27778	29850	7.46
eMachobeni/Inanda	44	24882	26602	6.91
Ntuzuma B/KwaMashu	45	37916	40721	7.4
KwaMashu F and G	46	21973	22705	3.33
KwaMashu M	47	33305	33359	0.16
Phoenix Industrial	48	32427	35234	8.66
Phoenix	49	28308	27978	-1.17
Foresthaven, Phoenix	50	27613	29403	6.48
Shastri Park, Ottawa	51	32040	36497	13.91
Westham, Brookdale	52	29987	30743	2.52
Terence Park, Amaoti	53	38653	44919	16.21
Mzomusha, New Town C	54	20886	25626	22.69
New Town B, Ntuzuma	55	28442	38068	33.84
Gogokazi, Amatikwe B	56	47460	46482	-2.06
Newtown, Ohlange Township	57	31361	35834	14.26
La Mercy, Umdloti	58	22090	33791	52.97
Terence Park, Buffelsdraai	59	48786	49384	1.23
Dawncrest, Redcliffe	60	18562	20983	13.04
Emona, Mithanagar	61	29747	34953	17.5
Sandfield, Hambanathi, Maidstone	62	22925	30089	31.25
Total		**890505**	**1027816**	**15.42**

Source: Statistics South Africa (2002)

In the central region of EThekwini Municipality in 1996, the population ranged from 19,684 per ward (Clairwood/CBD, ward 32) to 39,830 per ward (KwaNdengezi, ward 12) as shown in Table 9.16 below. Most of the wards in the Central region of EThekwini Municipality (25 out of 35) recorded positive changes that ranged from 0.05% (Chiltern Hills, ward 92) to 61.38% (Cato Manor, ward 27) in 2001 as Table 9.16 below shows. On aggregate, in 1996 the Central region had a total population of 890,505 which increased to 1,027,816, a percentage change of 15.42 %.

In the South region of EThekwini Municipality the population per ward in 1996 ranged from 11,672 (Umlazi V, ward 76) to 38,087 (Umlazi K, ward 78). Between 1996 and 2001 population changes were mostly positive, ranging from 4.13% (Umlazi, ward 85) to 114.2% (Umlazi V, ward 76). The three areas that experienced negative population changes between 1996 and 2001 are Umlazi K (ward, 78), Umlazi (ward, 81) and Lotus Park (ward, 90) which had negative changes of -5.54 %, -14.2% and – 49.86% respectively. The negative changes in some of the wards in Umlazi can be attributed to urban migration that was noted during interviews with stakeholders from Umbumbulu, as noted earlier. All this is shown in Table 9.17 which follows below Table 9.16.

Table 9. 16: Population Distribution per Ward in the Central Region of EThekwini Municipality

Suburb/Place name	Ward	Population		% Population Change
		1996	2001	
KwaNdengezi	12	39830	34458	-13.49
Dassenhoek, Marianhill	13	24639	32439	31.66
Namibia, Dassenhoek	14	20041	20194	0.76
Mpola, Tshelimnyama	15	31677	37289	17.72
Pinetown South ward	16	20185	26297	30.28
Crossmoor, Shallcross	17	27248	33052	21.3
Westville, Pinetown, Cowieshill	18	30135	26721	-11.33
Wyebank/Clermont	19	31131	36348	16.76
KwaDabeka	20	20859	25032	20.01
New Germany/Clermont	21	22342	25088	12.29
Clermont	22	22253	22567	1.41
Reservoir Hills/Clare Estate	23	33100	28121	-15.04
Westville/Chesterville	24	24691	26231	6.24
Springfield, Roseglen, Overport	25	30779	31828	3.41
South Beach/North Beach	26	20971	23351	11.35
Morningside/Greyville	27	26454	29052	9.82
Central Business District (CBD)/Durban University of Technology	28	25389	23224	-8.53
Cato Manor/Chesterville	29	20691	33392	61.38
Sherwood/Chesterville	30	30786	37276	21.08
Berea/Overport	31	31844	30132	-5.38
CBD/Clairwood	32	19684	21502	9.24
Glenwood/Umbilo	33	26866	27004	0.51
Malvern, Escombe	63	26539	26584	0.17
Yellowwood Park Montclair, Woodlands	64	26230	31963	21.86
Hillary, Mount Vernon, Coedmore, Umhlatuza	65	39032	38371	-1.69
Bluff, Brighton Beach, Grosvenor	66	25081	26903	7.26
Wentworth, Jacobs, Merewent	68	33129	33328	0.6
Havenside, Mobeni Heights	69	33234	31755	-4.45
Westcliff, Woodhurst, Bayview	70	28215	27626	-2.09
Shallcross, Bottlebrush	71	34712	39536	13.9
Reseclíff, Demat	72	32144	45460	41.43
Arena Park, Montford, Croftdene	73	28627	27921	-2.47
Lamontville	74	23449	20574	-12.26
Clairwood, Mobeni	75	35501	19900	-43.95
Umlazi Welbedacht	77	32738	37359	14.12
Atholl Heights, Chiltern Hills	92	25586	25598	0.05
Total		**1039130**	**1112534**	**7.06**

Source: Statistics South Africa (2002)

Table 9. 17: Population Distribution per Ward in South Region EThekwini Municipality

Suburb/Place name	Ward	Population		% Population Change
		1996	2001	
Adams Mission	67	21646	24057	11.14
Umlazi V	76	11672	25001	114.2
Umlazi K	78	38087	35976	-5.54
Umlazi F and G	79	26241	36655	39.69
Umlazi	80	21995	26273	19.45
Umlazi C	81	25638	21997	-14.2
Umlazi R and N	82	22058	27015	22.47
Umlazi L and M	83	27725	33058	19.24
Umlazi K	84	20805	22090	6.18
Umlazi Z	85	19952	20776	4.13
Umlazi U and Y	86	37498	42980	14.62
Umlazi Q	87	22189	24140	8.79
Umlazi S	88	26313	30338	15.3
Isipingo Hills	89	11683	24537	110.02
Prospecton, Isipingo Beach, Lotus Park	90	37563	18834	-49.86
Umbogintwini; Ezimbokodweni	93	29178	34503	18.25
KwaMakhuta, Emansomi	94	27228	30344	11.44
Folweni B and C	95	32279	43884	35.95
Amanzimtoti, Doonside, Winkelspruit	96	20187	25643	27.03
Folweni A	97	22512	26394	17.24
Illovu, Umgababa	98	24017	38873	61.86
Umkomaas, Craigieburn	99	27366	28820	5.31
Umbumbulu	100	28057	39236	39.84
Total		**581889**	**681424**	**17.11**

Source: Statistics South Africa (2002)

9.2.1.3 Gender of Population in EThekwini Municipality

The trend between 1996 and 2001 in almost all the functional regions of EThekwini Municipality has been that there have always been more females than males and the rate of female population increase has always surpassed that of males. For instance, population by gender in EThekwini Municipality in the Outer West region shows there were fewer males than females in 1996. In areas that experienced positive population changes between 1996 and 2001 such as KwaNyuswa/Ngcobosi (ward 2) and Hammarsdale/Inchanga (ward 6) the female population increased more than the male population. Likewise, in areas such as Ximba/Bhonabhona (ward 1) and Georgedale/Ngcobosi (ward 5) that experienced negative population changes between 1996 and 2001, the male population decreased relative to the female population. Overall, in the Outer West the total population of males in 1996 and 2001 was 126,770 and 148,859 respectively which is a percentage change of 17.42%. On the other hand, in 1996 and 2001 the female population was 141,889 and 168,550 respectively which is a percentage change of 18.79%.

Table 9. 18: Population by Gender

Place Name	ward	Males			Females		
		1996	2001	% Change	1996	2001	% change
Ximba, Bhonobhono	1	19183	14100	-26.5	21197	16068	-24.2
KwaNyuswa, Ngcolosi	2	11447	17065	49.08	13409	20258	51.08
Hammarsdale, Inchanga	4	6307	16449	160.81	6876	18483	168.8
Georgedale, Sankotshe	5	16085	15400	-4.26	17626	17625	-0.01
Mpumalanga North	6	11990	12476	4.05	14248	14059	-1.33
Shongweni,	7	9062	13974	54.2	9879	15458	56.47
Botha's Hill	8	9971	15648	56.94	10429	17294	65.83
Hillcrest, Forest Hill, Molweni	9	14398	15416	7.07	15540	16775	7.95
Kloof, Gillitts	10	9167	9168	0.01	10374	10516	1.37
Mpumalanga Township	91	19160	19163	0.02	22311	22014	-1.33
Total		**126770**	**148859**	**17.42**	**141889**	**168550**	**18.79**

Source: Statistics South Africa (2002)

From Table 9.19 below it can be discerned that the North Region of EThekwini Municipality is not very different from the Outer West. Only two wards had more males than females in 1996: ward 39 (KwaMashu) and ward 40 (KwaMashu C). In the North region the total population in 1996 and 2001 was 450,984 and 511,228 respectively which amounts to a percentage change of 13.36%. At the same time, the total female population in 1996 and 2001 was 474,088 and 546,756 respectively, which is a percentage change of 15.33%.

Table 9. 19: Population by Gender in the North Region

Suburb/Place name	ward	Males			Females		
		1996	2001	% Change	1996	2001	% change
Verulum, Mzinyathi	3	11041	19878	80.04	12176	22266	82.87
Newlands, KwaMashu	11	14916	17958	20.39	16762	20749	23.79
Effingham/Kenville	34	12308	20135	63.59	13174	21025	59.59
Umhlanga Rocks, La Lucia	35	12812	11826	-7.7	13924	12940	-7.07
Durban North	36	11059	11875	7.38	12796	13740	7.38
Newlands West	37	17058	22782	33.56	18629	25352	36.09
Ntuzuma/Lindelani	38	11624	14644	25.98	12576	15663	24.55
KwaMashu	39	9803	11377	16.06	4488	6944	54.72
KwaMashu B	40	16195	16201	0.04	9354	10158	8.6
KwaMashu C	41	9587	10354	8	10285	10701	4.04
Ntuzuma/Inanda	42	14672	17755	21.01	16767	20272	20.9
Ntuzuma/KwaMashu/Lindelani	43	13342	14124	5.86	14858	15726	5.84
eMachobeni/Inanda	44	11618	12269	5.6	13024	14333	10.05
Ntuzuma B/KwaMashu	45	18009	19536	8.48	19572	21185	8.24
KwaMashu F and G	46	10208	10861	6.4	11527	11844	2.75
KwaMashu M	47	15632	15713	0.52	17415	17646	1.33
Phoenix Industrial	48	15464	16759	8.37	16806	18475	9.93
Phoenix	49	13806	13602	-1.48	14288	14376	0.62
Foresthaven, Phoenix	50	13435	14239	5.98	14010	15164	8.24
Shastri Park, Ottawa	51	15640	17851	14.14	16240	18646	14.82
Westham, Brookdale	52	14510	14692	1.25	15385	16051	4.33
Terence Park, Amaoti	53	18632	21520	15.5	19740	23399	18.54
Mzomusha, New Town C	54	9935	12021	21	10705	13605	27.09
New Town B, Ntuzuma	55	13537	17888	32.14	15055	20180	34.04
Gogokazi, Amatikwe B	56	22796	21985	-3.56	24582	24497	-0.35
Newtown, Ohlange Township	57	15376	16863	9.67	16293	18971	16.44
La Mercy, Umdloti	58	10802	16314	51.03	10905	17477	60.27
Terence Park, Buffelsdraai	59	23480	23970	2.09	25397	25414	0.07
Dawncrest, Redcliffe	60	9080	10372	14.23	9369	10611	13.26
Emona, Mithanagar	61	14273	16812	17.79	15307	18141	18.51
Sandfield, Hambanathi, Maidstone	62	11151	14952	34.09	11482	15137	31.83
Total		**450984**	**511228**	**13.36**	**474088**	**546756**	**15.33**

Source: Statistics South Africa (2002)

The growth of the female population reflected above can be attributed to the increase in female rural to urban migration as well as the increase in female labour participation. During the interviews with multiple stakeholders in the peri-urban settlement of Folweni it was noted that women have moved from impoverished rural areas of KZN in the recent past and settled in the area. It was also observed that there has been an increase in the number of women taking up employment in flexible industrial clusters in Isipingo. It was further noted that women are also migrating from rural areas to work in informal activities in various town centres of the different functional regions of the Municipality. This was the case with women who settled in post-apartheid low income RDP housing townships as in the case of Clermont area, specifically ward 20, Section D, where it was noted women migrants are lured by the booming informal sector in Pinetown.

9.2.1.4 Population Groups in EThekwini Municipality

In the Outer West region of EThekwini Municipality the most dominant population group was Africans followed by Whites. The Indian and in particular the Coloured population was not significant in comparison to the African and White population. In 2001 there was an increase in three population groups; African, Coloured, and Indian but a decrease in the White population. It should

be noted that the distribution of these three racial groups in the Outer West is not even. For instance, the highest concentration of the African population is in the Ximba, Bhonobhona (ward 1), KwaNyuswa/Ngcobosi, (ward 2), and Mpumalanga (ward 21). These areas are made up of rural areas, peri-urban dense settlements and established townships, all areas in which Africans have traditionally resided. On the other hand, the White population group is mostly concentrated in the areas of Forest Hill/Hillcrest (ward 9) and Kloof/Gillitts (ward 10) which are made up of established, formal suburban residential areas.

Table 9. 20: Population Groups in the Outer West 1996 and 2001

Place Name	Ward	Population group							
		1996				2001			
		African	Coloured	Indian	White	African	Coloured	Indian	White
Ximba, Bhonobhono	1	40246	19	42	508	29691	43	49	386
KwaNyuswa, Ngcolosi	2	25478	22	0	1	37279	14	6	25
Hammarsdale, Inchanga	4	11419	40	100	1584	33042	80	107	1703
Georgedale, Sankotshe	5	34101	46	30	134	32818	26	70	112
Mpumalanga North	6	26425	36	73	0	26496	12	0	27
Shongweni	7	17812	104	444	873	28020	135	715	562
Botha's Hill	8	18422	19	142	2007	30704	48	221	1969
Hillcrest, Forest Hill, Molweni	9	16773	89	84	13145	20073	127	183	11809
Kloof, Gillitts	10	3091	53	1252	15267	2913	121	2075	14574
Mpumalanga Township	91	41309	50	6	0	41086	59	10	22
Total		**235076**	**478**	**2173**	**33519**	**282122**	**665**	**3436**	**31189**

Source: Statistics South Africa (2002)

The situation in the North region of EThekwini Municipality in terms of population groups is slightly different because, overall, the region has a bigger population compared with the Outer West. Implicitly, there is a greater presence of the four population groups than Outer West. However, in descending order the presence of the four groups is as follows: African, Indian, White and Coloured. This is shown in Table 9.21 below. In terms of distribution, the population is segregated along racial lines as is the case in the Outer West. Africans mostly reside in areas of KwaMashu and Ntuzuma (wards 38 – 47) where they have traditionally resided in established townships and pockets of informal settlements. The White population group dominates the Durban North/Umhlanga area (wards 35 and 36), suburban established formal areas where they traditional resided during the apartheid era. The Indian population group dominates the areas of Phoenix (wards 48 – 52) which are established Indian residential areas created during the pre-democracy era, while the Coloured population group dominates the area of Newlands (ward 11), although it should be noted that this population group is also shared across areas mostly dominated by Whites and Indians. In other areas in the North region there is also a significant mix of population groups in terms of residence especially in the areas of La Mercy/Umdloti/Terrence Park (wards 58 and 59). It should also be noted

that, overall, in the North region, all but one population group, Whites, increased. While Whites decreased from 44,680 in 1996 to 41,499 in 2001, the African, Indian and Coloured groups increased from 546,727; 269,998 and 21,70; to 685,625; 275,568 and 25,126 respectively.

Table 9. 21: Population groups in EThekwini North Region, 1996 and 2001

Suburb/Place name	Ward	Population group							
		1996				2001			
		African	Coloured	Indian	White	African	Coloured	Indian	White
Verulum, Mzinyathi	3	24090	20	4	3	42119	14	7	4
Newlands, KwaMashu	11	17690	13753	163	37	24534	13998	152	24
Effingham/Kenville	34	7652	2966	13407	932	25959	3541	11471	189
Umhlanga Rocks, La Lucia	35	3747	842	4903	17160	3803	1154	5741	14068
Durban North	36	4032	342	1366	18150	4653	456	2427	18079
Newlands West	37	10355	1790	23349	36	24408	2326	21337	63
Ntuzuma/Lindelani	38	24143	11	3	8	30222	44	36	5
KwaMashu	39	14083	22	8	4	18301	8	4	9
KwaMashu B	40	25600	9	1	4	26326	18	8	8
KwaMashu C	41	19835	8	5	0	21038	12	0	4
Ntuzuma/Inanda	42	31624	65	3	5	37985	41	0	0
Ntuzuma/KwaMashu/Lindelani	43	27381	55	4	1	29801	18	21	10
eMachobeni/Inanda	44	22888	82	1756	24	26564	23	3	13
Ntuzuma B/KwaMashu	45	37564	38	13	17	40672	28	17	4
KwaMashu F and G	46	21839	38	2	3	22665	37	4	0
KwaMashu M	47	33052	14	3	1	33340	13	3	4
Phoenix Industrial	48	1827	156	30224	40	4395	453	30342	45
Phoenix	49	283	119	27628	31	453	280	27234	10
Foresthaven, Phoenix	50	260	66	27020	10	499	283	28600	20
Shastri Park, Ottawa	51	826	120	30835	23	1933	259	34273	33
Westham, Brookdale	52	641	148	28999	12	2385	354	27988	17
Terence Park, Amaoti	53	31654	71	6738	5	38088	81	6737	12
Mzomusha, New Town C	54	20702	37	12	0	24864	47	712	3
New Town B, Ntuzuma	55	28211	35	4	2	38003	50	15	0
Gogokazi, Amatikwe B	56	47120	124	19	8	46357	96	24	4
Newtown, Ohlange Township	57	24666	98	6385	5	29047	229	6552	5
La Mercy, Umdloti	58	5490	214	9205	7004	14099	327	11711	7654
Terence Park, Buffelsdraai	59	34106	306	13968	66	35073	452	13799	60
Dawncrest, Redcliffe	60	4357	164	13743	162	5768	218	14935	62
Emona, Mithanagar	61	4532	82	24913	88	10230	155	24491	77
Sandfield, Hambanathi, Maidstone	62	16477	75	5315	839	22041	111	6924	1013
Total		**546727**	**21870**	**269998**	**44680**	**685625**	**25126**	**275568**	**41499**

Source: Statistics South Africa (2002)

In the Central region of EThekwini Municipality the biggest population group in 1996 was Africans (394,215), followed by Indians (286,850) and Whites (206,868). The least represented population group was Coloureds, with a population of 46,421. Three population groups Africans, Indians and Coloureds increased to 472,786, 297,082 and 55,677 respectively in 2001, while Whites decreased from 206,868 to 176,896, a trend also witnessed in the Outer West and North regions.

Table 9. 22: Population Groups in the Central Region, 1996 and 2001

Suburb/Place name	Ward	Population group							
		1996				2001			
		African	Coloured	Indian	White	African	Coloured	Indian	White
KwaNdengezi	12	39082	49	342	3	34396	33	21	9
Dassenhoek, Marianhill	13	18178	3516	2510	10	25585	4219	2616	20
Namibia, Dassenhoek	14	19792	37	0	2	20153	36	4	0
Mpola, Tshelimnyama	15	22850	1690	1714	4628	30479	1955	930	3926
Pinetown South ward	16	7772	162	2278	9802	12761	421	2654	10461
Crossmoor, Shallcross	17	13704	131	13152	17	20369	166	12500	17
Westville, Pinetown, Cowieshill	18	3973	265	2907	22646	4788	456	3644	17832
Wyebank/Clermont	19	27139	40	3211	588	32581	182	2778	807
KwaDabeka	20	20710	28	0	0	24880	22	86	44
New Germany/Clermont	21	13569	110	287	8231	15865	330	667	8226
Clermont	22	22074	64	4	3	22502	49	0	16
Reservoir Hills/Clare Estate	23	12222	400	19922	79	8887	580	18566	88
Westville/Chesterville	24	11244	404	3854	9015	13340	539	4401	7951
Springfield, Roseglen, Overport	25	6391	5085	16609	2146	8940	6041	15330	1517
South Beach/North Beach	26	8292	1505	3087	7900	13102	1962	3694	4592
Morningside/Greyville	27	3817	856	2519	19061	7282	1421	5184	15165
Central Business District (CBD)/DUT	28	4433	655	8144	11849	3295	778	9869	9282
Cato Manor/Chesterville	29	16749	289	3523	17	28473	514	4368	37
Sherwood/Chesterville	30	27135	857	1811	786	32583	1558	2732	403
Berea/Overport	31	5671	4507	6497	14832	5395	4048	7902	12787
CBD/Clairwood	32	8983	1543	4125	4866	13952	1261	3787	2502
Glenwood/Umbilo	33	5618	609	1220	19181	7280	1078	2191	16455
Malvern, Escombe	63	2176	187	5008	18963	2866	380	8055	15283
Yellowwood Park Montclair, Woodlands	64	5638	602	2190	17654	11896	1063	3725	15279
Hillary, Mount Vernon, Coedmore, Umhlatuza	65	8284	671	16289	13573	8662	996	16506	12206
Bluff, Brighton Beach, Grosvenor	66	4889	1697	2736	14776	6577	1699	3463	15163
Wentworth, Jacobs, Merewent	68	3695	10193	18273	50	5857	12368	15072	32
Havenside, Mobeni Heights	69	3048	252	29672	50	5120	306	26311	19
Westcliff, Woodhurst, Bayview	70	786	154	26978	30	1064	206	26340	16
Shallcross, Bottlebrush	71	5487	159	28639	28	10402	261	28839	34
Resecliff, Demat	72	4536	186	27113	33	13176	397	31867	19
Arena Park, Montford, Croftdene	73	296	125	27979	31	463	221	27228	9
Lamontville	74	23274	39	0	5	20509	33	22	10
Clairwood, Mobeni	75	33942	478	788	10	19038	50	798	13
Umlazi Welbedacht	77	27055	33	5408	14	31567	46	5744	3
Atholl Heights, Chiltern Hills	92	25359	69	0	113	24588	46	93	871
Total		**394215**	**46421**	**286850**	**206868**	**472786**	**55677**	**297082**	**176896**

Sources: Statistics South Africa (2002)

Population distribution in the Central region of EThekwini Municipality is by and large similar to the Outer West and North regions. The African population groups dominates the established African townships, informal settlements around established formal areas and new RDP housing in areas such as Cato Manor/Mayville/KwaNdengezi/Umlazi (wards 12, 29, 30). On the other hand, the White population dominates the established traditional suburbs in the areas of Westville/Pinetown/Cowieshill/Morningside (wards 16, 18 and 27). The Indian population groups are highly concentrated in established traditional Indian townships in Springfield/Wentworth/ Mobeni Heights/Bayview/Shallcross/Arena Park (wards 25, 65, 68, 69, 70, 71, and 72). The Coloured population is mainly concentrated in Wentworth (ward 68), an area also predominantly occupied by the Indian population group. A key feature of the Coloured group is that it is spread

across areas dominated by the other three racial groups, although it features more prominently in areas where the Indian population group stays.

Table 9. 23: Population Groups in the South Region, 1996 and 2001

Suburb/Place name	Ward	Population group							
		1996				2001			
		African	Coloured	Indian	White	African	Coloured	Indian	White
Adams Mission	67	1408	12376	913	5891	2246	14244	1736	5831
Umlazi V	76	8986	84	2531	3	23125	67	1779	31
Umlazi K	78	37875	33	0	0	35939	27	4	6
Umlazi F and G	79	26084	24	0	8	36608	33	8	7
Umlazi	80	21906	23	0	0	26244	13	13	3
Umlazi C	81	25559	9	3	1	21940	22	17	19
Umlazi R and N	82	21954	21	0	0	26941	16	52	5
Umlazi L and M	83	27541	32	5	0	33002	46	8	0
Umlazi K	84	20649	5	4	4	22073	6	7	4
Umlazi Z	85	19842	25	0	0	20744	31	0	0
Umlazi U and Y	86	36712	83	564	4	42936	40	0	4
Umlazi Q	87	21955	27	0	4	24101	28	9	3
Umlazi S	88	26085	33	9	6	30308	24	5	3
Isipingo Hills	89	2583	92	8904	20	15459	197	8864	17
Prospecton, Isipingo Beach, Lotus Park	90	20327	330	16441	112	3463	251	15056	64
Umbogintwini; Ezimbokodweni	93	24136	51	277	4516	29824	144	455	4080
KwaMakhuta, Emansomi	94	26866	26	0	5	30270	40	11	22
Folweni B and C	95	32063	13	0	118	43862	7	3	13
Amanzimtoti, Doonside, Winkelspruit	96	20008	30	0	13	25600	11	5	26
Folweni A	97	4239	102	301	17830	10440	163	716	15075
Illovu, Umgababa	98	16908	34	894	5812	31600	93	1207	5972
Umkomaas, Craigieburn	99	16913	167	7309	2794	18232	261	7884	2443
Umbumbulu	100	27690	4	40	0	39206	6	6	18
Total		**488289**	**13624**	**38195**	**37141**	**594163**	**15770**	**37845**	**33646**

Source: Statistics South Africa (2002)

Population group dynamics in the South region of EThekwini Municipality are not very different from the other regions of the municipality. In 1996 the most dominant group was the Africans (554,957), followed by Indians (38,201), Whites (37,254) and Coloureds (13,743). In terms of growth, the African and Coloured population groups increased to 659,837 and 15,875 respectively whilst the White and Indian population declined to 34,539 and 37,948 respectively. The distribution of population is also segregated along race lines with Africans mainly living in the established African townships, RDP townships/traditional authority areas in Umlazi, Umbogintwini, KwaMakuta, Folweni and Umbumbulu (wards 76-88, 93-96, 100). The Coloured population dominates the Adams Mission area (ward 67) where part of the White and African population groups also reside. The White population is also more visible in of Umbogintwini, Winkelspruit and Illovu (wards 93, 97 and 98). The Indian population is mostly concentrated in Lotus Park and Isipingo Hills (wards 89, 90).

It should be noted that whilst it can be generalized that the three main population groups (African, Indian and White) are still residing in the settlements they occupied during the apartheid era, the

1996 and 2001 census data presented above, show that there have been changes in this trend. Focus group discussions and interviews with key informants revealed that since 1996 there has been significant racial mixing, especially in formerly White suburban neighbourhoods and ex-urban neighbourhoods, such as Mt Edgecombe and Umhlanga due to the mobility by middle income Africans. In the case of Umlazi, it was noted that many middle-aged Africans who have recently climbed the income ladder, for reasons that might include Black Economic Empowerment Programmes or educational accomplishments, were moving into town houses in ex-urban locations such as Mt Edgecombe in the peripheral north, as well as the old apartheid White suburbs such as the Berea.

9.1.2.5 Age groups

Age groups in the wards in EThekwini Municipality‟s different functional regions are shown in Figures 9.2 to 9.6 on the following pages. In 1996, in the Outer West, the most dominant group was the 15-34 age group (99,660), followed by the 5-14 age group (66,640) and the 35 to 64 age group (66,218). The least dominant age groups were over 65 and 0-4, which had populations of 30,328 and 11,836 respectively. In 2001, all the age groups recorded positive growth but the age category population concentration hierarchy shifted slightly and the 35-64 category increased more than the 5-14 category. The figures on the following pages also show spatial variances in the distribution of different age categories among different settlement types in the Outer West. From these Figures, it is clear that the age groups 0-4, 5-14 and 15-34 are concentrated in areas where Africans stay, which are either dense peri-urban settlements, traditional authority rural settlements or established African settlements such as Ximba/Bhonabhona (ward 1), KwaNyuswa (ward 2), Inchanga (ward 4), Sankotshe (ward 5) and Mpumalanga Township (ward 91). On the other hand, the age groups in established suburban formal residential areas where the White population group predominantly resides in areas such as Forest Hill (ward 9) and Kloof/Gillitts (ward 10) are dominated by the 35-64 age group, followed by the over 65 age group.

In the Northern region of EThekwini Municipality trends are similar to the Outer West, with the predominance of population age groups in descending order in both 1996 and 2001 as follows: 15 – 34, 35 – 64, 5 – 14, 0 – 4 and over 65. This is shown in the Figures on the following pages. All the age groups increased in numbers between 1996 and 2001. Also similar to the Outer West, there is spatial variation in the concentration of age groups in the different areas where the main population groups African, Indian, White and Coloured, reside. For example, in the established African township of KwaMashu (wards 38 – 47), where Africans stay, the biggest population age groups

between 1996 and 2001 are 15 – 45; 35 – 64; 5 – 14, 0 – 4 and over 65 in descending order. In Phoenix (wards 48 – 52), and La Mercy/Umdloti/Terrence Park (wards 58 and 59) where the Indian population sub-group mainly resides, the age group sizes in descending order were as follows: 15 – 45; 35 – 64; 5 – 14, 0 – 4 and over 65. The trend is similar to areas where Africans live. In areas where the White population predominates, Durban North/Umhlanga (wards 35 and 36) the age group size dynamics in 1996 and 2001 in descending order are as follows: 35 – 64, 15 – 34, 5 – 14, over 65 and 0 – 4. Turning to the Coloured population group in Newlands (ward 11), where the group is mostly domiciled, the population age group size in descending order in 1996 and 2001 is as follows: 15 – 45; 35 – 64; 5 – 14, 0 – 4 and over 65. The trend is similar to that in areas where Africans and Indians reside.

Figure 9. 2: Age groups in EThekwini wards 1-20

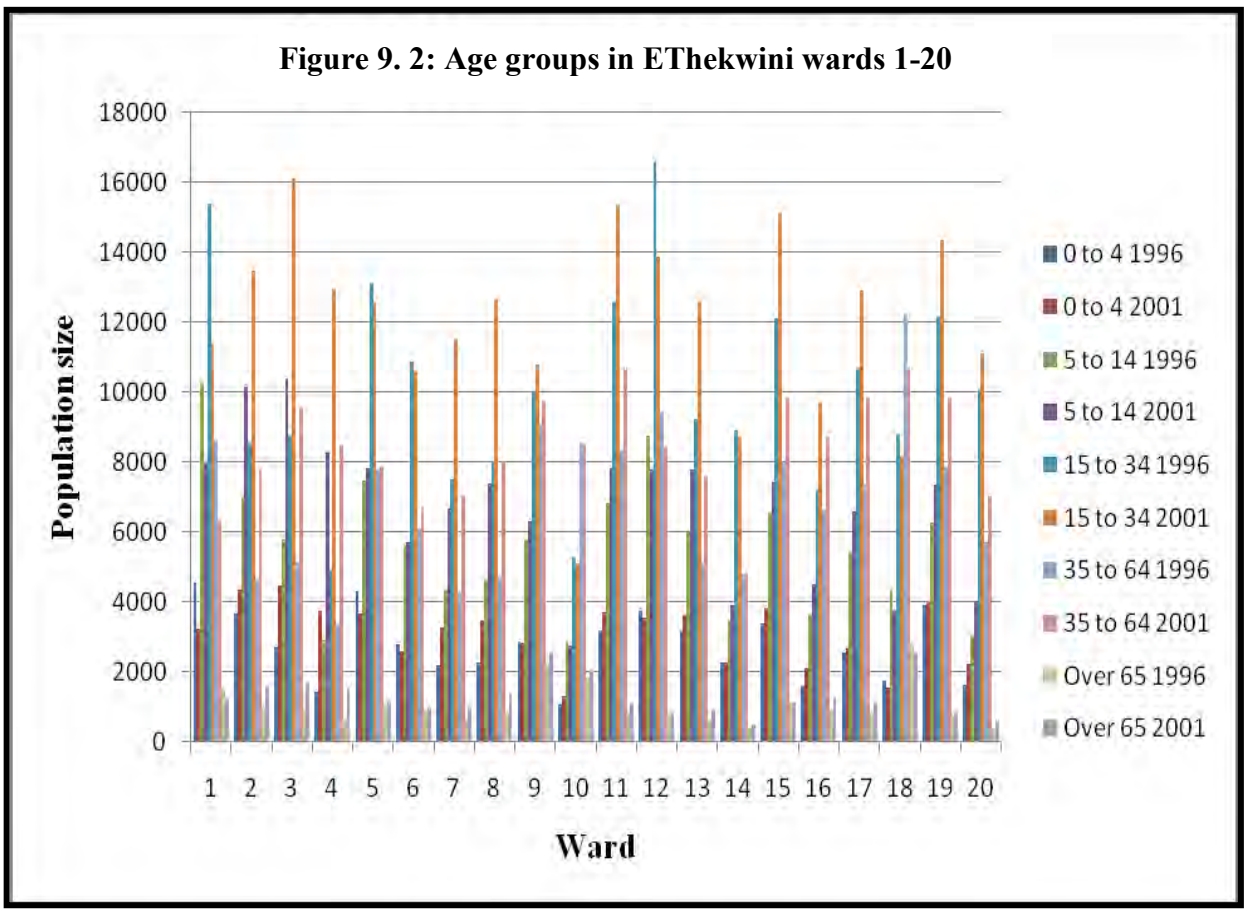


Figure 9. 3: Age groups in EThekwini wards 21 - 40

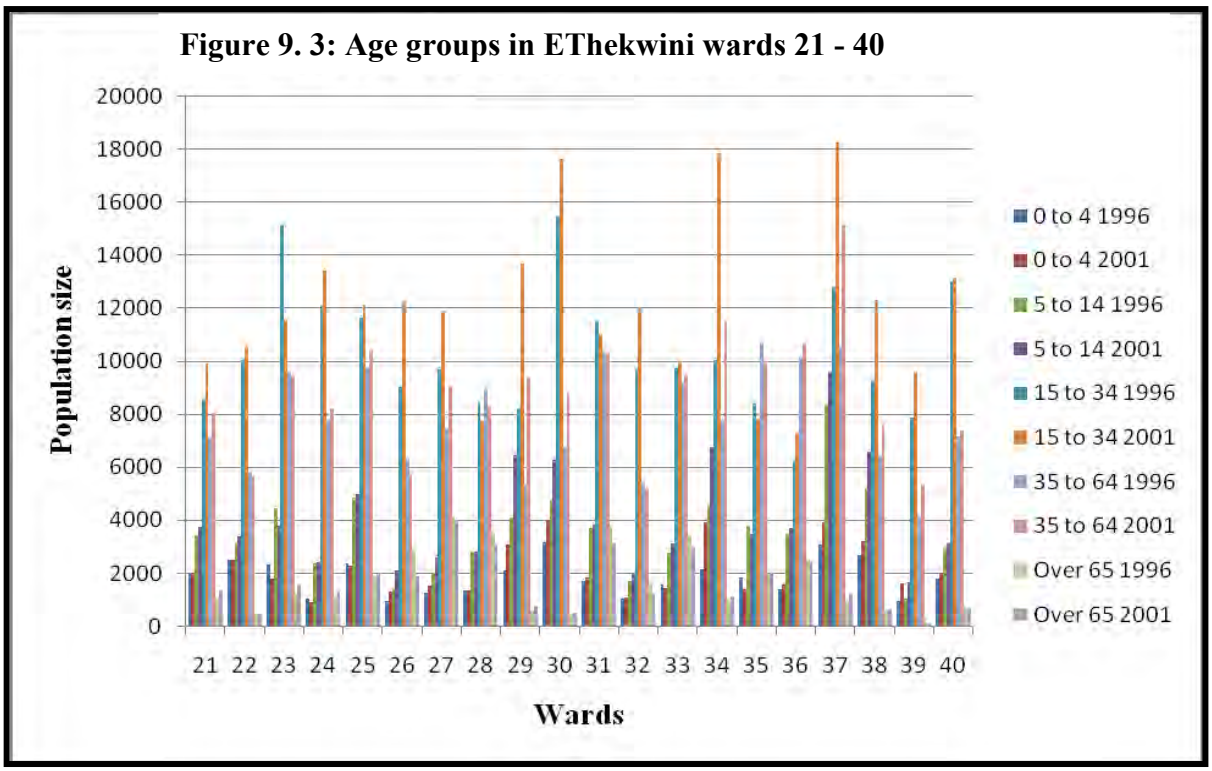


Figure 9. 4: Age groups in EThekwini wards 41-60

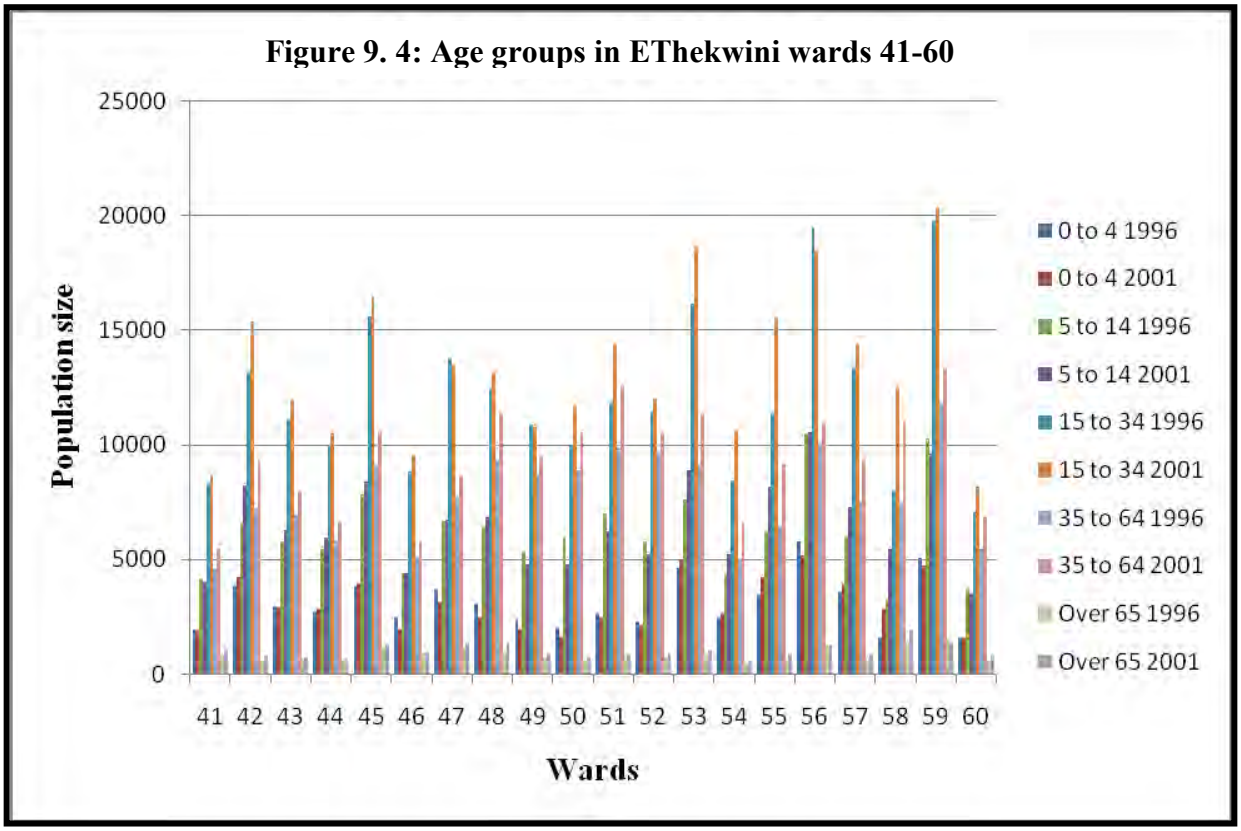


Figure 9. 5: Age groups in EThekwini wards 61 - 80

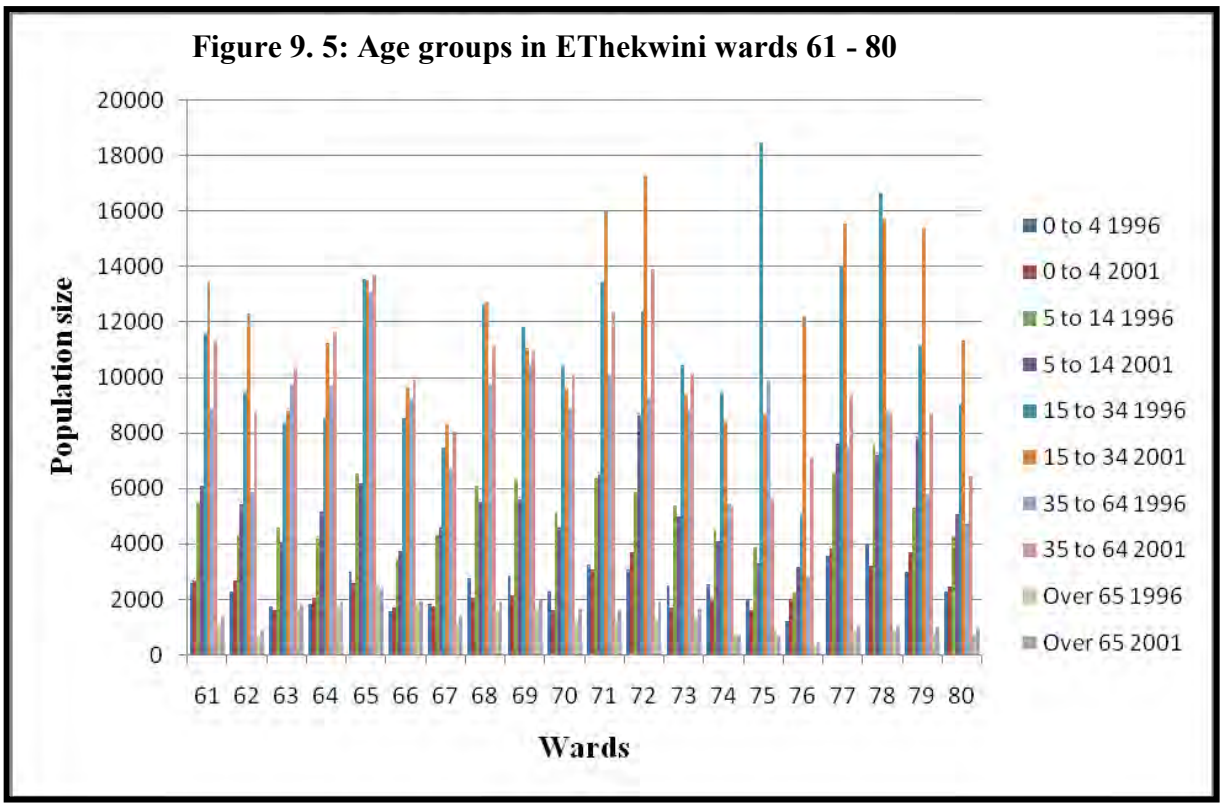
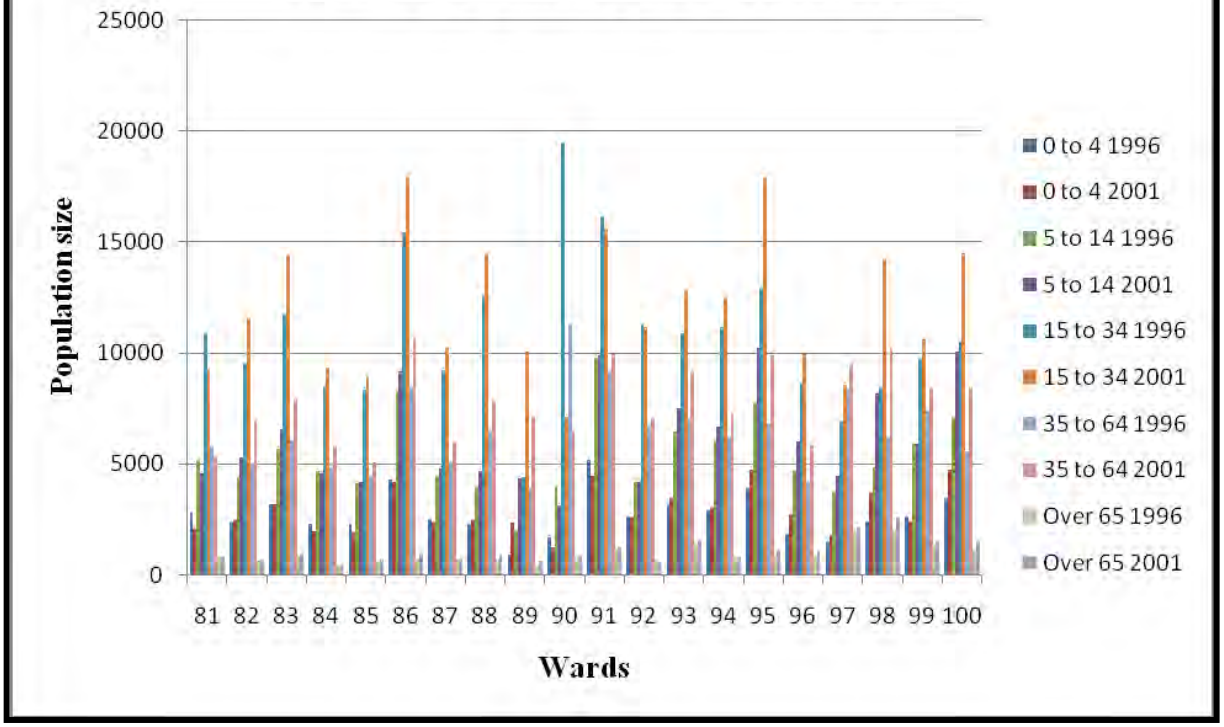


Figure 9. 6: Age groups in EThekwini wards 81 - 100



The overall age group size dynamics in the Central region of EThekwini municipality are not very different from those found in the Outer West and the North regions of the municipality. The different age groups experienced positive growth between 1996 and 2001 and their size hierarchy in descending order in both years is as follows: 15 – 34; 35 – 64; 5 – 14; 0 – 4; and over 65. In areas where the African population groups are concentrated such as the established African townships, informal settlements around established formal areas and new RDP housing such as Cato Manor/Mayville/KwaNdengezi/Umlazi (wards 12, 29, 30) the size hierarchy of the population groups in descending order in 1996 and 2001 is as follows: 15 – 34; 35 – 64; 5 – 14; 0 – 4; and over 65. The Indian population groups are highly concentrated in established traditional Indian townships in Springfield/Wentworth/Mobeni Heights/Bayview/Shallcross/Arena Park (wards 25, 65, 68, 69, 70, 71, and 72). The age group dynamics of this area in 1996 and 2001are similar to areas where mainly Africans reside and their size in descending order is 15 – 34; 35 – 64; 5 – 14; 0 – 4; and over 65. In Westville/Pinetown/Cowieshill/Morningside (wards 18 and 27) where the White population group dominates, the population age group size in 1996 and 2001 in descending order is as follows 35 – 64, 15 – 34, 5 – 14, over 65 and 0 – 4. The age group size dynamics in areas where the Coloured sub-group resides (for example Wentworth, ward 68) between 1996 and 2001 in descending order is 15 – 34; 35 – 64; 5 – 14; 0 – 4; and over 65 which is no different from African and Indian-dominated residential areas.

Overall all the five population age groups in the South Region of EThekwini Municipality shown in the figures above recorded positive growth. In descending order, their population size hierarchy was structured as follows in both 1996 and 2001: 15 – 34; 35 – 64; 0 – 4; and over 65. This trend is also pervasive in the other three functional regions of EThekwini Municipality. As in other regions, the spatial concentration of age groups in areas inhabited by different population groups varied. In the case of areas where mainly Africans live, such as traditional authority rural areas and established African townships such as KwaMakuta (ward 94), Folweni (wards 96 and 97), Umlazi (wards 76 – 87) and Umbumbulu (ward 100), the trend in descending order of the population age group size hierarchy in both 1996 and 2001 is 15 – 34; 35 – 64; 5 – 14; 0 – 4 and over 65. The only anomaly is Umbumbulu, a traditional authority rural area where the age size hierarchy in descending order in both 1996 and 2001 is 15 – 34; 5 – 14; 35 – 64; 0 – 4 and over 65. It is also pertinent to note that in these areas, there is a significant proportion of over 65s relative to other areas where Africans live. In areas where the Indian population group largely resides such as Isipingo Hills (ward 93) and Lotus Park (ward 90) the trend in terms of the population size group hierarchy in descending order is as

follows: 15 – 34; 35 – 64; 0 – 4; and over 65. In the area where the Coloured population is mainly concentrated (Adams Mission, ward 67), the scenario is no different from Indian and African-dominated areas. In areas where the White population group is concentrated such as Umbogintwini, Winkelspruit and Illovu (wards 93, 97 and 98) the age group dynamics in both 1996 and 2001 reflect the pattern in White-dominated areas in other regions of EThekwini Municipality.

The age group size dynamics shown in the figures above for the different functional regions are not substantially different from the current ones. Nevertheless, special attention should be paid to age groups in the settlements where the African population sub-group predominantly resides, especially the peri-urban established townships, and new RDP townships. All the key informant stakeholders noted with concern, the rise in the population of unemployed youths in the 15 – 34 age group. An associated trend was high teenage pregnancy rates in the 5 – 15 years age group (the second largest population group in the area). For instance, in Folweni, one of the councillors bemoaned the concentration of unemployed youths whose main preoccupations are criminal activities and unprotected sex. Unprotected sex increases the incidence of HIV/AIDS and teenage pregnancies. The same applies to Umlazi where there is a problem of unemployed youths waiting on street corners waiting for dawn to break so that they can engage in criminal activities such as house breaking and mugging people.

9.1.2.6 Households in EThekwini Municipality

The term „household" denotes people staying under the same roof, be they related or not. In both 1996 and 2001 the largest concentration of households consisted of one to five people. From Table 9.24 below it can be discerned that most of the households in the Outer West region"s established suburban neighbourhoods such as Forest Hill (ward 39) and Kloof (ward 10) relative to African settled areas such as Mpumalanga Township (ward 91) and Ximba (ward 1). It should be noted that in some cases, especially informal settlements where mainly Africans, there is a very large concentration of smaller households (one or two persons) as in the case of Georgedale (ward 5). The bottom line, however, is that in both 1996 and 2001 there appears to be a more or less even spread of a range of household sizes from one person per household to those 10 people and more in African settled areas.

Table 9. 24: Household size in the Outer West Region

Ward	1		2		3		4		5		6		7		8		9		10 and over	
	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001
1	396	609	442	510	555	495	668	627	717	606	694	558	586	495	410	378	655	279	685	609
2	161	483	225	528	303	639	348	753	417	756	396	705	356	648	303	468	450	360	480	840
4	298	1053	448	1128	309	690	336	810	299	765	199	600	149	534	116	372	180	267	153	663
5	1894	1335	1191	1059	812	810	757	792	628	702	507	597	392	453	327	360	349	255	475	603
6	800	918	754	678	676	627	626	666	538	654	484	546	380	384	246	294	320	204	253	417
7	562	1122	505	822	434	747	431	717	375	717	333	582	236	384	174	273	251	204	172	516
8	379	1221	473	885	357	723	386	732	368	723	304	588	261	438	184	363	250	243	353	627
9	1422	1716	1877	2010	1141	1173	1293	1239	635	771	413	456	232	294	177	222	227	162	263	330
10	1950	1470	2038	1923	1033	909	1255	1062	532	519	203	213	70	111	35	30	22	15	12	9
91	973	1431	828	1044	714	1053	865	1062	846	1026	736	849	604	615	433	453	499	300	602	639
	8835	**11358**	**8781**	**10587**	**6334**	**7866**	**6965**	**8460**	**5355**	**7239**	**4269**	**5694**	**3266**	**4356**	**2405**	**3213**	**3203**	**2289**	**3448**	**5253**

Source: Statistics South Africa (2002)

Table 9. 25: Household size in the South Region of EThekwini Municipality

Ward	1		2		3		4		5		6		7		8		9		10 and over	
	1996	2001	1996	2001	1996	2001	1996	2001		2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001
67	491	558	911	942	925	945	1227	1143	843	798	427	450	188	195	128	132	95	57	30	87
76	477	6798	463	1689	409	873	379	663	281	405	186	315	127	183	80	132	114	72	56	153
78	1462	1185	1352	1065	1160	963	1034	888	816	840	631	699	492	540	361	375	429	273	345	546
79	796	1572	812	1212	622	987	652	993	515	843	360	726	315	513	266	390	293	270	332	543
80	560	855	560	774	468	645	474	615	416	552	365	477	284	372	244	264	393	225	230	486
81	742	819	800	678	642	552	612	591	513	504	445	378	341	306	234	255	321	159	312	351
82	718	1143	798	1020	706	819	597	765	487	669	418	537	242	414	213	231	286	171	185	360
83	782	1182	828	987	650	843	624	825	535	789	536	612	331	504	267	363	386	249	307	522
84	601	708	521	591	532	603	595	681	547	657	434	516	292	342	234	234	221	141	168	231
85	644	633	520	525	407	501	462	489	381	486	312	417	263	300	192	228	319	144	220	372
86	1396	1683	1211	1275	1033	1155	986	1230	905	1119	715	906	478	702	359	399	408	291	332	558
87	899	1116	693	948	535	672	492	645	436	540	323	462	281	324	226	240	315	171	246	354
88	2999	1698	1046	945	539	729	478	600	386	498	302	417	270	354	185	228	279	186	265	444
89	658	1050	382	1083	387	990	586	1086	510	774	262	486	127	246	76	153	72	93	19	114
90	318	543	584	681	738	792	1060	1116	839	786	550	444	229	201	121	105	116	57	63	75
93	614	1413	1091	1377	893	945	927	996	715	798	526	573	393	468	290	321	335	219	179	498
94	652	1263	650	951	556	783	640	738	552	723	483	600	365	447	274	315	373	240	288	456
95	935	1320	819	1095	790	1080	814	1092	784	1086	672	900	475	642	318	531	397	333	261	711
96	246	564	282	447	329	492	394	576	366	546	417	534	293	387	238	315	400	240	116	495
97	1023	1335	2168	2148	1217	1140	1449	1209	644	663	299	366	114	180	58	132	88	72	34	159
98	780	1776	1194	1857	695	1263	659	1257	535	939	395	753	270	489	202	330	300	249	223	462
99	974	1293	1049	1407	866	1032	1075	1161	790	861	551	600	323	342	218	231	230	141	187	267
100	359	765	443	732	418	732	578	822	565	858	531	831	427	615	308	462	382	321	413	822
	19126	31272	19177	24429	15517	19536	16794	20181	13361	16734	10140	12999	6920	9066	5092	6366	6552	4374	4811	9066

Source: Statistics South Africa (2002)

Table 9.25 above also reflects similar trends in household sizes in the South region between 1996 and 2001. For instance, in wards 76 – 89 under which the established African Township of Umlazi mostly falls, there is a more or less even spread of household sizes from one person per household to 10 persons and more, whilst in the areas dominated by Whites such as Winkelspruit (ward 97) most households have less than seven persons. The trend in Indian- dominated sub-areas such as Phoenix, an established Indian township, is also household sizes of one to 10 or more people, although the most concentrated category is households of three to six people in both 1996 and 2001. In Coloured-dominated areas such as Adams Mission (ward 67), the household sizes between 1996 and 2001 also range from one to 10 or more people. However, there is a large density of those with three to six people. In EThekwini Municipality as a whole, there was an increase in the number of households between 1996 and 2001.

It should be noted that the two tables above do not portray an accurate picture of household sizes in areas where the African population sub-group is domiciled, especially peri-urban and rural settlements. In the peri-urban settlement of Folweni household sizes were reported to be more than six persons as a result of high rates of teenage pregnancy. It was noted that many of these teenagers were of school going age and are still dependant on their parents; after giving birth they continue to stay at home with their children and their siblings. In the rural area of Umbumbulu, household sizes were also reported to be between seven and twelve because of the extended family culture prevalent in most rural set ups in KwaZulu-Natal. However, for lower and upper middle class Africans who have moved from traditional African settlements to settle in formerly exclusive apartheid suburbs, the trend is towards nuclear families.

In terms of dwellings, most of the dwellings in EThekwini Municipality‟s different functional regions were formal in both 1996 and 2001. In the peripheral regions of the municipality, such as the Outer West, the second most common dwelling type was traditional, due to the presence of traditional authority rural areas such as Ximba/Bhonabhona (ward 1), Ngcobosi (ward 2), and Sankotshe (ward 5). This also applies to the South Region where there are a significant number of traditional dwellings in traditional authority areas such as Umbumbulu (ward 100). There are also a significant number of informal dwellings in the peripheral regions of EThekwini Municipality, such as Georgedale (ward 5) in the Outer West. Some of the informal dwellings are within established townships such as Umlazi V (ward 76); Umlazi K (ward 78) in the South region and the Intuzuma/KwaMashu area (wards 38 – 47) in the North region. Within the Central region, there are also significant informal dwellings close to established African townships in the Mayville/Sherwood

area (ward 30). Figures 9.7 to 9.12 show dwelling types in some of the settlements that were chosen for in-depth primary study, namely, informal, rural, per-urban, and established townships settlement typologies.

Figure 9. 7: Informal Dwellings in Cato Crest Informal Settlement

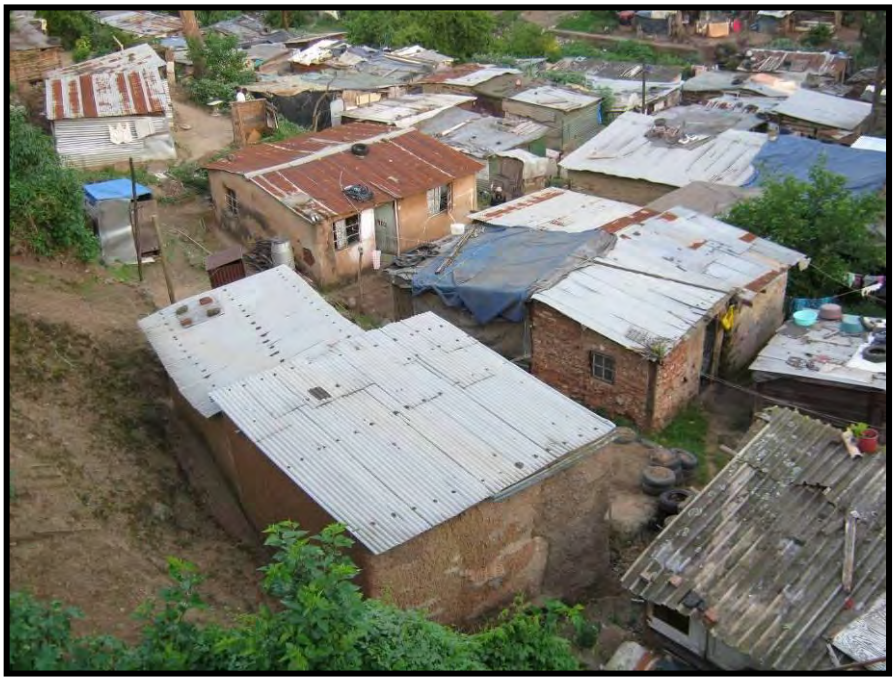


Figure 9. 8: : Dwellings in the rural settlement of Umbumbulu

Figure 9. 9: Homestead in the rural settlement of Umbumbulu

Figure 9. 10: Peri-urban dwellings in Folweni

Figure 9. 11: Residential neighbourhood in peri-urban Folweni

Figure 9. 12: Dwellings in Umlazi established township

Figure 9.7 above shows that informal dwellings are small and thinly sparsed and are mostly built from scrap metal, plastic tents and old tyres and mud. In contrast, homesteads in the rural area of Umbumbulu consist of a modern farm house and a supporting hut whose design is informed by

traditional Zulu designs, although the materials used for construction are modern. Thus one notes that the dwellings are a blend of modern rural designs and traditional designs from the hinterland. In the peri-urban area of Folweni, the dwellings shown in Figures 9.10 and 9.11 reveal the same trend of modern and traditional dwelling designs; however, the difference lies in the density of dwellings. Dwellings in peri-urban settlements are thinly sparsed more or less the same as informal dwellings, although they are more spacious. Figure 9.12 shows that in established townships such as Umlazi, dwellings are a mixture of modern and informal forms, as shown by a modern, formal house with backyard shacks.

The number of rooms per dwelling in EThekwini Municipality in 1996 and 2001 is largely a reflection of settlement typology. For instance, in the suburban formal residential areas of Umhlanga (ward 35), where there is high and middle income apartment housing and mostly one or two persons per household. In informal dwellings such as Georgedale (ward 5) in the Outer West, there are at most one or two rooms per dwelling. In most established African townships there is a large concentration of dwellings with four or five rooms, as is the case with KwaMashu (wards 39 – 47). This is also true for project-linked RDP housing as is evident in Welbedacht (ward 77). These are standard project-linked RDP housing typologies. In established formal residential areas where the White population subgroup is most concentrated (such as ward 27 in Morningside), there is a significant presence of dwellings with four rooms. During interviews with key stakeholders, concerns were expressed regarding the number of rooms per dwelling, especially in peri-urban settlements, established townships and new RDP townships. Overcrowding was a key concern, owing to high rates of teenage pregnancy, which is fuelling the growth of the African extended family. As noted earlier, most teenage mothers are still dependents who continue staying with their core families together with their new born children. This was a real concern in Folweni peri-urban settlement where the sexual debut among teens was speculated to be a chilling low of 13 years.

The level of infrastructure provision for sanitation, water and energy for lighting in different regions of EThekwini Municipality is also differentiated along the various settlement typologies and different population sub-groups that reside in them. For example, in the South region, flush toilets and flush toilets using sceptic tanks were prominent in established formal residential areas where there is a concentration of Coloured people (Adams Mission, ward 67), Isipingo Hills, an established formal residential area dominated by the Indian population subgroup (ward 89) and Winkelspruit (ward 97), where there is a high concentration of Whites. In the established African township of Umlazi (wards 76 – 88), where there are both formal and informal dwelling arrangements; in both

1996 and 2001 there is dominance of both flush and pit latrine sanitary arrangements, even though mobile sanitary arrangements such as the bucket system still exist and some dwellings have no sanitation. In traditional authority areas and peri-urban dense settlements such as Umbumbulu (ward 100) and Folweni (wards 96 and 97) respectively, pit latrines feature prominently.

Levels of access to water infrastructure in the different functional regions of EThekwini Municipality in 1996 and 2001 also varied with the settlement typology. Most households with water inside the dwelling were in the established suburban and formal residential areas such as Umhlanga (ward 35), Kenville (ward 34) and Emona (ward 61) in the North region to mention but a few. In the established African township of KwaMashu (wards 39 – 47), the level of access ranged from those with water inside the dwelling to a community stand within 200m. However, in some cases, community stands were predominant compared with water inside the dwelling and inside the yard, *vice versa*. In the established Indian township of Phoenix most households had water inside the dwelling. In terms of bulk infrastructure provision, interviews revealed that most communities were happy with the level of access. For instance, in the case of the rural settlement of Umbumbulu, although a 60% rate of electricity availability was noted, a 100% rate of access to water within the yard was noted. However, serious concerns regarding bulk infrastructure provision were noted in informal settlements. In the Cato Crest area, for example, illegal water and electricity connections were noted; during the interviews, key stakeholders argued that the municipality did not recognize their needs and as such they had to resort to *'Izinyokanyoka'*, a slang term for illegal connections.

9.1.3 Economic Analysis

The educational status and the economic characteristics of the population in relation to employment, unemployment, labour force absorption capacity, labour force participation rates, labour dependency ratios, employment by sector and annual household income are also mostly differentiated along the various settlement typologies and various population groups that domicile therein. According to Statistics South Africa, in 1996 and 2001, educational status in established African townships, where in some instances there are pockets of informal settlements, was hierarchically structured in descending order in terms of people‟s concentration: secondary school; Grade 12; some primary school; no schooling; completed primary school and higher education. Cumulatively, this suggests that most people had completed primary school or less, as very few had higher education qualifications in these areas. This can also be said to be true of areas such as Umbumbulu and Folweni, traditional authority rural areas and dense peri-urban areas respectively. This trend was confirmed by primary data from Umlazi, Folweni, Umbumbulu, Cato Crest and the new RDP

township in KwaDabeka, ward, 20 section D. In Adams Mission (ward 67) and Isipingo Hills where there is a large concentration of the Coloured and Indian sub-population groups respectively, the majority of residents have at least secondary education and a Grade 12 qualification. In comparison with the mainly African inhabited areas, there are also a significant number of people with higher education. In Winkelspruit where the White sub-population group is mostly domiciled, there is a marginally high concentration of people with Grade 12 and higher levels of education for those 20 years and older.

The unemployment rates in EThekwini‟s different functional regions are also different in the various settlement typologies. For instance, the Central region had the lowest unemployment rate of 3-5% between 1996 and 2001, according to Statistics South Africa. This region includes the established, formal suburban residential areas, mostly inhabited by the White population sub-group, of Morningside (ward 27) and Westville (ward 18). On the other hand, the Coloured and Indian sub-groups in established townships such as Wentworth (ward 66), Mobeni Heights (ward, 69) and Bayview (ward, 70) have relatively high unemployment rates compared to White-dominated areas. In these areas, unemployment hovered at around 15-30% in both 1996 and 2001. In contrast, in the established formal African and RDP townships such as KwaDabeka (ward 20); Clermont (ward 22) and Welbedacht there were obscenely high unemployment rates, in some cases more than 50% in both 1996 and 2001, according to Statistics South Africa.

The same can be said to be true of labour force participation rates in the KwaMashu area (wards 38-37), where labour force participation rates in both 1996 and 2001 were slightly over 60% compared to the Umhlanga area (wards 35 and 36), where labour force participation rates are marginally higher.

Labour dependence ratios are also different in the various settlement typologies dominated by the different population sub-groups. In the Durban North region for instance, the highest labour dependency ratios are found in the areas where the Indian population sub-group mainly lives. These include Phoenix (ward 5) and established African townships such as KwaMashu (wards 38 – 47). Stakeholders residing in areas where mainly Africans reside noted during the interviews that these areas have high unemployment rates, low labour force participation rates and high dependency ratios; furthermore, these were said to be increasing. In both established townships such as Umlazi and new RDP townships such as KwaDabeka, Section D in Clermont, it was noted that most people

were employed the informal sector, especially the taxi industry for men and vending and hawking for women.

Annual household incomes are linked to the labour force characteristics in the different typologies. For example, in the Outer West region households with no annual household income are concentrated in the traditional authority areas (Ximba, Bhonabhona and ward 1), informal settlements (Georgedale, ward 5) and established African townships such as Mpumalanga (ward 91). In contrast, households with relatively high levels of annual income are concentrated in established formal suburbs such as Hillcrest (ward 9) and Kloof (ward 10).

The occupation structure in different functional regions of EThekwini Municipality also shows variations across different settlements in 1996 and 2001. In the South region for instance, in traditional authority areas such as Umbumbulu (ward 100) the most prominent occupation in both 1996 and 2001 is elementary followed by craft and trade. This is also the case in established African townships such as Umlazi (wards 76 – 88), where the dominant occupation is Elementary work, followed by a more or less even spread of other occupations. In W-dominated areas such as Winkelspruit, the most common occupations in both 1996 and 2001 were professionals and technicians. In Adams Mission (ward 67) where there is a large concentration of the Coloured population sub-group, the most prominent occupation was craft/trade and clerical. In Lotus Park and Isipingo (wards 89 and 90), mainly occupied by Indians, craft and trade, elementary, plant/machine operators and clerical occupations were common.

In almost all the functional regions of EThekwini Municipality, the sectors that had their labour absorption capacities are Agriculture, Community/Social, Financial/Insurance and Wholesale/Retail. The sectors that decreased their labour absorption capacities are Mining/Quarrying, Private households, Transport/storage and Undetermined sectors. It should also be noted that there is differential distribution of employment by sector in the different settlement typologies in the functional regions. In the established African townships, informal settlements and new RDP residential settlements such as KwaDabeka (ward 12), Mayville (ward 30) and Welbedacht (ward 77), between 1996 and 2001, regardless of fluctuations in some sectors, most people were employed in the Community/Social, Manufacturing, Private Households, and Wholesale/Retail sectors. In areas where the Indian and Coloured population is mostly domiciled – Wentworth (ward 68), Mobeni Heights (ward 69) and Bayview (ward 70) – between 1996 and 2001, also regardless of fluctuations, most people were employed in the Community/Social, Financial/Insurance, Manufacturing and

Retail Sectors. In the established formal suburban neighbourhoods where the White population sub-group dominates, in some cases including the Black and Indian middle class, most people were employed in the Community/Social, Financial, Manufacturing and Wholesale/Retail sectors.

Table 9.26 shows employment per sector in SA and EThekwini Municipality in 2001 and 2007. The data for 1996 were not available. From the table, it was possible to calculate the comparative advantage of different economic sectors in EThekwini, which are illustrated in Table 9.27 which shows locations quotients (LQ) for economic sectors in EThekwini Municipality relative to SA. Comparative advantage (CA) illustrates competitive sectors in a local economy relative to the aggregate economy. In the absence of GDP data, as is in this case, CA is calculated by dividing the percentage contribution of a sector to overall employment in a local area by the percentage contribution of the sector to the overall employment in the aggregate region. If the LQ is less than one, it shows a lagging sector or comparative disadvantage; if it is more than one, it reflects comparative advantage. Sectors with comparative advantage show latent potential and are therefore worth promoting and propping up. However, it should be borne in mind that sectors with LQs higher than one, should not be regarded as the only sectors worth developing as latent potential in other sectors has not been addressed by this technique.

Table 9. 26: South Africa, and EThekwini: Employment by Economic Sector, 1996, 2001 and 2007

	South Africa			EThekwini		
	1996	**2001**	**2007**	**1996**	**2001**	**2007**
Agriculture/Forestry/Fishing		960487	830192	8933	13947	29453
Community/Social/Personal		1841850	1945129	129403	149673	165934
Construction		520488	734092	46794	40383	66487
Electricity/Gas/Water		71630	99935	8285	5382	8959
Financial/Insurance/Real Estate/Business		904564	1338325	65406	87867	137561
Manufacturing		1206842	4949680	163097	158682	186947
Mining/Quarrying		383495	449723	1761	1326	2988
Other		2530	1179268		108	96467
Private households		940326		88085	68943	
Transport/Storage/Communication		442727	477927	52332	50790	50891
Wholesale/Retail		1454443	1680728	96255	134091	158108
Total		**8729382**	**13684999**	**660351**	**711192**	**903795**

Source: Statistics South Africa (2002)

Table 9. 27: Location Quotient of EThekwini relative to SA

	1996	**2001**	**2007**
Agriculture/Forestry/Fishing		0.17	0.53
Community/Social/Personal		0.99	1.29
Construction		0.95	1.37
Electricity/Gas/Water		0.92	1.35
Financial/Insurance/Real Estate/Business		1.19	1.55
Manufacturing		1.61	0.57
Mining/Quarrying		0.042	0.10
Other		0.52	1.23
Private households		0.9	
Transport/Storage/Communication		1.40	1.61
Wholesale/Retail		1.13	1.42

Source: Statistics South Africa (2002)

Sectors in EThekwini Municipality that had latent potential in 2001 were Financial/Insurance/Real Estate/Business, Manufacturing, Transport/Storage/Communication and Wholesale/Retail. In 2007, manufacturing took a nose dive but the list of sectors with CA expanded to include Community/Social/Personal, Construction and Electricity/Gas/Water whilst Transport/Storage/Communication and Wholesale retained their advantage.

9.1.4 Accessibility analysis in EThekwini Municipality

Accessibility of public facilities and social services is based on studies conducted in EThekwini Municipality over the period 2001, 2006 and 2008 to 2010 by the Centre for Scientific and Industrial Research (CSIR). The main goals of the studies were to identify locations where existing supply and demand for social facilities and recreational space are not balanced; identify optimal areas of location for new facilities that may be required; and model and analyse current and future facility provision in terms of accessibility, location and sufficiency (Green *et al*, 2010).

The benchmarks for determining optimal supply, demand and location are mainly based on standards in terms of the demand, access measures and service level targets (travel time or preferred distance within a range of contexts (Green *et al*, 2010). The CSIR research team held discussions with service providers to agree on acceptable access standards for each type of facility; the outcome is shown in Table 9.28 below. However, it should be borne in mind, as the CSIR research team notes, that in as much as planning should not consist of blue-prints without normative and quantifiable standards, it is difficult to measure and compare levels of provision and future needs.

Table 9. 28: Standards for the Provision of Facilities in EThekwini Municipality

Group	Facility	Category Provision	Population threshold	Access distance	Site size
Education	Primary Schools	Essential	7 000 people	Max.15 minutes in-vehicle travel time	Min. 2.8ha (including sports fields);If sharing community sports fields – 1.4ha/
	Secondary Schools	Essential	12 500 people	Max.15 minutes in-vehicle travel time; 3km or less walking distance	Minimum 4.8ha (including sports fields);If sharing community sports fields – 2.6ha.
	Further Education & Tertiary Institutions	Advisable	• Tertiary institutions that are not universities:100 000 people Universities: 1 000 000+ people		Tertiary institutions that are not universities: 1ha • Universities: 8ha
	Special Education	Advisable	Regional demand – needs driven; World Health Organisation estimates between 2.2% to 2.6%of learners disabled or impaired.		Site sizes are larger than conventional schools to increase accessibility of the facility and the demand often for residential facilities.
Health	Primary Health Clinics	Essential	optimal 40 000 people (range 5 000 – 70 000 people, largely for those not privately insured)	15 minutes in-vehicle travel time or 1.5km walking distance where densities permit	0.5ha (range 0.2ha – 1.0ha)
	Community Health Centres with ARV Clinic	Essential	60 000 to 120 000 people	15-30 minutes in-vehicle travel time	1.5 ha minimum
	District Hospitals (L1)	Essential	450 000 people	Up to 30 minutes in-vehicle travel time	5 ha
	Regional Hospitals (L2)	Advisable	1000 000 people	30 - 60 minutes in-vehicle travel time	7 ha
	Tertiary/ Teaching Hospitals (L3)	Advisable	4 500 000 people	Location on key access routes within the metro area is more important	35 ha
Social Facilities	Cemeteries	Essential	50 000 people	8.8 ha over a 30 year period (assumes that most of the site allows for burials, an annual death rate of 1.6%, gross area per grave of 5.33 square metres, 40% recycling of graves after ten years and 30% of recycling of graves after 20 years, and that 90% of the dead are buried) [If recycling of graves is highly efficient the land required could be lowered to 6.2 ha.	
	Informal Urban Agriculture	Optional	Varied - needs driven	Food gardens should preferably within walking distance of residential areas which require them	Varied - demand driven, site specific
	Local Markets	Optional	5 000 people	Within 5 minutes walk of public transport stop/activity centre	Varied - demand driven, site specific
	Early Childhood Development Centres/Crèches	Advisable	2 400 people in low income areas; 3 000 people in middle to high income areas	700 metres	Varies but a minimum of 0.02 ha could accommodate 100 children (No special allocation of land required, requires registration and permitted use permission.)Indoor play area - at least 1.5 square metres per child; Outdoor play area - 2 square metres per child [if no outside space 1 square metre per child must be added to indoor area; If over 50 children enrolled for a full day require separate office, sickbays and staffroom.
	Children″s Homes/ Places of Care	Advisable	60 000 people	1 ha	
	Community Halls	Essential	30 000 people	15 minutes in vehicle travel time (urban); 30 minutes in vehicle travel time (rural)	0.2 ha - 0.5 ha
	Major Public Venues	Optional	1 000 000 plus people		2 -4 ha
	Worship Centres	Optional	3 000 - 6 000 people	Varies depending on popularity and service provided; 2 km typical maximum	0.15 ha - 1 ha
	Homes for the Aged	Advisable	50 000 people		2 ha
	Hospices & Health Centres	Optional	50 000 people		0.5 ha
Public Service Facilities	Civic Centres/ City Halls	Advisable	500 000 people	30 minutes in-vehicle travel time	1 ha - 2 ha
	Municipal Offices	Essential	1 per sub-region	Centrally situated within sub-region	0.3 - 1 ha
	Sizakala Customer Care Centres	Advisable	Rural - 30 000 people; Urban - 100 000 people (or lower in certain areas)	First Stop Centre - max.15 min-vehicle travel time	Varies depending on range of services offered and facilities provided
	Home Affairs Offices	Essential	20 000 people	Max. In-vehicle travel time - 30 minutes	0.006 ha; 0.02 ha or larger if stand alone building
	Post Offices	Optional	10 000 people	15 min in-vehicle travel time or 1 km walking distance	0.01 ha shop space/ 0.03 ha land
	Libraries	Advisable	20 000 people (Can be incrementally increased to 70 000 depending on catchment density)	15 min in-vehicle travel time (urban); 30 mins in-vehicle travel time rural	0.05 ha (Minimum 0.03 ha) Varies depending on facilities provided and if stand-alone building
	ICT Access Points	Advisable	20 000 people	15 minutes in-vehicle travel time (rural)	Suggest incorporation into libraries and Sizakala Centres rather than stand-alone facilities
	Small Museums	Optional	50 000 people	30 minutes in-vehicle travel time	Site and purpose specific
	Performing Arts Centres	Optional	50 000 people	30 minutes in-vehicle travel time	Site and purpose specific
	Fire Stations	Essential	100 people (indicative only, overriding factor is reach and density)	Response times and area risk classifications for location of fire stations	0.3 ha suburban station; 1.2 ha regional headquarters
	Police Stations	Essential	60 000 people	5 km or 15 minutes response time	0.1 0 1 ha
	Prisons & Places of Safety	Essential	Highly dependent on criminal profile of communities and workings of justice systems	Proximity to courts important in terms of awaiting trial prisoners	2-5 ha depending on demand
	Magistrates Courts	Essential	No agreed common norms - Department of justice considers proximity to users, political issues, case loads of courts and crime hot spots. Should be aligned in terms of municipal boundaries		
	Solid Waste Disposal Sites & Recycling Depots	Essential	Determined by demand and sire specific factors; solid waste disposal sites usually of regional nature.		
Public Open Space	Parks	Advisable	0.5 ha per 1 000 people	20 mins (community parks; 15 minutes travel time by public transport for District/Regional Parks	
Sports and Recreation	Overall Allocations for Sports Fields &Facilities	Essential	0.56 ha per 1 000 people		

Source: CSIR (2011)

The CSIR research team notes that stepwise procedures were followed to undertake accessibility analysis for most facilities, namely, catchment area analysis (this entailed defining current catchments of existing facilities, travel distances and constraints which, in turn, enabled the research

team to determine sufficiently served areas, divided into time zones; under-serviced areas, and a range of travel times from existing facilities); service side analysis and facility classification based on modelled capacity utilization; analysis of under or poorly served demand and backlogs quantification; identification of new facilities‟ locations using optimization analysis and the development of an integrated map viewer to assist in the development of integrated facility plans. The outcome of the analysis was that it managed to show facilities backlogs per functional region in EThekwini Municipality, as shown in Table 9.29 below.

Table 9. 29: Consolidated Facilities Backlog by Sub-region

Facility	North	South	Central	West	EThekwini	Comment	Key intervention areas
Population 2006	1 138 628	783 821	1 089 526	489 776	3 501 751		
Low cost housing impact	81 544	-7283	18 541	-17067	75735		
Housing Clusters	7,18, 19, 20, 21, 22, 23	1, 2, 3, 5	4, 6, 8, 9, 15, 16, 17	10, 11, 12, 13, 14			
Primary health care (Nurses)	-487	289	417	152	372	Clinic locations are generally acceptable. Some staff needs to be spatially re-deployed plus additional staff appointed.	Mpumalanga, Umlazi, Chesterville and Pinetown South
Additional	51	-5	12	-11	47		
Fire stations (minimum)	3	1	1	3	8	8 is the minimum required based on consolidated unserved areas excluding rural. A total backlog based on unreached land area is 14 stations urban/special and 4 for rural.	Fredville/Inchanga, Umkomaas, Verulam, Waterfall/Clermont/KwaDabeka, Springfield and Inanda
Additional	WILL REQUIRE ANALYSIS NOT YET UNDERTAKEN						
Community Halls	-8	-25	-39	-14	-86	Oversupply based on all halls irrespective of grade and without consideration of bookings.	Inanda, Durban Central and Umlazi
Additional	3	0	1	-1	3		
Libraries	2-4	3	0	3	8-10	8-10 permanent facilities with varying capacities required plus outreach. Some area are oversupplied but libraries can serve as study centres, etc.	Fredville, Mpumalanga, INK, Molweni, Umlazi and Umnini
Additional	2	0	1	0	3		
Sports fields (overall)	-128	-52	-95	-10	-284	Oversupply based on applied provision. Some pockets in the West require facilities. Standards needs to be reviewed against usage.	KwaNyuswa and Mpumalanga
Additional	10	-1	2	-2	9		
Soccer fields	-45	-16	-35	6	-90	Oversupply based on applied provision standard. West requires additional fields.	KwaNyuswa and Mpumalanga
Additional	Soccer is a subset of All sport all the above may be soccer or other						
Indoor Sports Halls	1	1- 2	1	1	4 - 5	Minimum 1 per sub-region	Greater Inanda, Umlazi, Sydenham/Berea/Westville, Mpumalanga and Amanzimtoti
Stadiums	10	6	-2	4	18	Central oversupplied based on local needs but serves Provincial and National Function.	Greater Inanda and Umlazi
Swimming Pools	5	2	4	8	19		Inanda, Clermont. Mpumalanga, Pinetown South and Golokodo
Additional	1	0	0	0	1		
Primary Schools	8	24	-29	18	20	Average 1000 pupils per school	Mpumalanga, Fredville, Umlazi, Inanda, and Pinetown South
Additional	8	0	1	-1	8		
Secondary Schools (70%)	9	18	-17	20	31	Average 1000 pupils per school	Mpumalanga, Fredville, Umlazi, Inanda, and Pinetown South
Additional	8	0	1	-1	8		
Parks (ha)	492	420	238	268	1419		Mpumalanga, Fredville, Umlazi, Inanda, Westville, Amanzimtoti, Umnini and Pinetown South
Additional	24.5	-2.2	5.6	-5.1	22.8		
Police (2001)							Umkomaas, Greater Inanda and Sydenham/Cato Manor/Bellair

Source: CSIR (2011)

From the table above, it is evident that areas with poor access to facilities are mostly established African townships, some of which have informal settlements next to them such as Mpumalanga (ward 91; Outer West region) Inanda/Ntuzuma/KwaMashu (wards 38 – 47; North region) and Umlazi (wards 76 – 88; South region).

The outcome of the CSIR accessibility analysis was by and large corroborated by the interviews conducted by the researcher in the selected typical settlements. For instance, in the peripherally located informal settlement of Fredville in the Outer West, it was highlighted that most facilities such as schools, libraries and fire stations were inadequate. However, key techniques used for accessibility analysis by the CSIR research team, namely population threshold, access distance and site size failed to appreciate some of the qualitative aspects of demand for facilities. For example, during interviews with key stakeholders in new RDP townships (KwaDabeka, ward 20 section D), peri-urban settlements (Folweni) and rural settlements (Umbumbulu), the issue of overcrowding at primary health clinics was emphasized. In Umbumbulu, an area which was not covered by the CSIR consolidated facilities backlog list, it was noted that access to primary health care was extremely difficult as the only clinic covered only a few areas adequately. Other areas such as Engonyameni which is 12 – 15 kilometres away were not sufficiently covered. In the case of KwaDabeka, section 20 in Clermont, it was noted that although Pinetown, a town centre less than 5 kilometres from the township, had a range of health facilities, most people were unemployed and could not afford to travel to access health care. The only primary health care clinic in the township taking strain and was overcrowded. Another issue that was highlighted in mostly rural and peri-urban areas and in townships was the erratic and in some in some instances the complete absence of clinics providing anti-retroviral treatment in the face of increasing AIDS-related ailments. Another qualitative aspect of demand for facilities missed by the CSIR research team is the issue of postal services in informal settlements. Although some informal settlements are a stone‟s throw away from postal services, as is the case in Cato Crest, residents do have street addresses. It should be noted that both the secondary and primary data regarding access to facilities is that most of the technical and qualitative demands for facilities are found in areas where the African population sub-group resides – informal settlements, townships (both old and new) and peri-urban and rural settlements.

9.1.5 Functional Analysis in EThekwini Municipality

The main aim of functional analysis in EThekwini Municipality was to determine the range of services that the different functional regions of the metropolitan region offer. Services refer to activities that do not produce or modify goods, such as education, insurance, banking, retailing,

storage, transportation, administration, tourism and cleaning. As such, functional analysis also sought to illuminate the level of agglomeration within the different functional regions of EThekwini Municipality. This was in view of Janssen and Schal‟s (*undated* :2) observation that functional analysis helps planners to classify settlements according to functions, determine levels of adequacy of functions in particular settlements, determine deficiencies of functions or settlements where improvements in functions can be undertaken, and identify settlements that have the potential to be upgraded to higher order settlements, as well as settlements fulfilling the threshold values required to support basic services and facilities. As such results from functional analysis are also invaluable to investors who are seeking to locate new investments (*ibid*), a point also valid in the context of EThekwini Municipality.

The basic steps of conducting a functional analysis highlighted by Jassen and Schal (*ibid*: 2) are:

a) Listing urban centres in descending order according to their population.
b) Listing all important functions and activities on the head of the matrix.
c) Drawing a series of vertical and horizontal lines which form the grid of the matrix and indicating the quantities of the respective functions or activities for each grid.
d) Counting the quantities for each function per column and totalling them.
e) Calculating the percentage column by column to measure the scores given to each quantity unit.
f) Counting the percentages row by row in order to obtain the total index which indicates the level of service provision.

In this research study, all but one of these steps was followed in conducting functional analysis for the different town centres in the metropolitan municipality. The first step was omitted because the population for the different functional regions was already ascertained in demographic analysis. The rest of the steps were followed and the results of the analysis are shown on the matrix in Table 9.30 below.

Table 9. 30: EThekwini Municipality Settlement Functional Matrix

Settlement	Functional Region	Functions																										Functional Index
		Nursery School		Primary and Secondary School		Tertiary Institutions		Food, Fuel and Groceries		Recreational and Food Services		Personal Services (Other than recreational and consumable goods other than fuel)		Health and welfare		postal services and government		Financial		Legal and Commercial		Industrial and Construction Services		Capital goods and consumer durables		Large Composite		
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
Durban	Central	8	47.6	208	29.7	118	62.8	639	47.4	2158	51.3	5021	50.96	1271	51.6	253	46.94	119	47	4125	57.4	2941	48.9	555	45.8	311	58.7	646.3
Pine Town	Central	2	8.49	45	6.42	11	5.85	108	8.02	319	7.59	1035	10.5	159	6.45	57	10.58	26	10	624	8.69	869	14.4	195	16.1	51	9.62	122.7
Chatsworth	Central	13	3.77	77	11	6	3.19	114	8.46	184	4.38	432	4.38	180	7.3	27	5.01	9	3.5	192	2.67	302	5.02	43	3.55	18	3.4	65.64
Umhlanga	North	5	2.83	8	1.14	6	3.19	46	3.41	354	8.42	602	6.11	174	7.06	18	3.34	25	9.8	503	7	142	2.36	71	5.86	13	2.45	65.01
Westville	Central	6	5.66	17	2.42	7	3.72	41	3.04	198	4.71	457	4.64	124	5.03	17	3.15	14	5.5	409	5.7	204	3.39	51	4.21	14	2.64	53.8
Amanzimtoti	South	0	6.13	32	4.56	6	3.19	44	3.27	224	5.33	372	3.76	100	4.06	20	3.71	14	5.5	211	2.94	187	3.11	40	3.3	15	2.83	51.69
Hicrest	Outer West	101	6.13	26	3.71	8	4.26	40	2.97	197	4.69	444	4.51	67	2.72	22	4.08	3	1.2	281	3.91	230	3.82	42	3.47	24	4.53	50.03
Phoenix	North	0	1.42	65	9.27	4	2.13	78	5.79	95	2.26	319	3.24	120	4.87	15	2.78	5	2	136	1.89	228	3.79	61	5.04	18	3.4	47.84
Kloof	Outer West	13	5.19	11	1.57	5	2.66	12	0.89	96	2.28	195	1.98	51	2.07	13	2.41	3	1.2	160	2.23	113	1.88	14	1.16	7	1.32	26.88
Umlazi	Central	0	0.94	79	11.3	3	1.6	29	2.15	37	0.88	62	0.63	26	1.05	5	0.93	7	2.7	59	0.82	27	0.45	3	0.25			25.72
Queensburgh	Central	3	2.36	9	1.28			30	2.23	79	1.88	200	2.03	42	1.7	15	2.78	3	1.2	99	1.38	195	3.24	25	2.06	9	1.7	23.88
New Germany	Central	2	0.94	2	0.29	2	1.06	23	1.71	40	0.95	207	2.1	9	0.37	11	2.04	6	2.4	86	1.2	218	3.62	55	4.54	13	2.45	23.63
Isipingo	South	5	0.94	15	2.14	2	1.06	51	3.79	24	0.57	144	1.46	66	2.68	8	1.48	6	2.4	50	0.7	105	1.74	16	1.32	12	2.26	22.52
KwaMhashu	North	2	0.94	47	6.7	2	1.06	9	0.67	40	0.95	41	0.42	16	0.65	11	2.04	9	3.5	20	0.28	18	0.3	2	0.17	2	0.38	18.9
Cato Ridge	Outer West	0	2.36	14	2	3	1.6	29	2.15	42	1	72	0.73	16	0.65	26	4.82			37	0.52	54	0.9	5	0.41	5	0.94	18.07
Mt Egecombe	North			3	0.43	1	0.53	22	1.63	28	0.67	83	0.84	15	0.61	1	0.19	1	0.4	94	1.31	39	0.65	11	0.91	6	1.13	15.53
Glitis	Central	0	2.36	4	0.57	2	1.06	5	0.37	36	0.86	78	0.79	20	0.81	7	1.3			53	0.74	58	0.96	7	0.58	1	0.19	10.61
Prospecton	Central	2	0.47					9	0.67	3	0.07	51	0.52	4	0.16	2	0.37	4	1.6	24	0.33	72	1.2	14	1.16	10	1.89	8.48
Inanda	Outer West	12	1.42	26	3.71			4	0.3	1	0.02	11	0.11	3	0.12	3	0.56	1	0.4	4	0.06	2	0.03			1	0.19	6.92
Clermont	Central			13	1.85			9	0.67	23	0.55	16	0.16	2	0.08	5	0.93			6	0.08	5	0.08	1	0.08			4.41
Umdloti Beach	South					1	0.53	5	0.37	26	0.62	7	0.07			2	0.37			8	0.11	6	0.1					2.17
Umbumbulu	South					1	0.53					4	0.04			1	0.19					4	0.07					0.83
Total		**174**	**100**	**701**	**100**	**188**	**100**	**1347**	**100**	**4204**	**100**	**9853**	**99.98**	**2465**	**100**	**539**	**100**	**255**	**100**	**7181**	**100**	**6019**	**100**	**1211**	**100**	**530**	**100**	**1300**

Source: Braby's KwaZulu Natal Business Directory (2010/2011)

From Table 9.30 above, one notes that the various functions in the urban centres of EThekwini Municipality‟s four functional regions were divided into broad categories, namely, nursery schools; primary and secondary schools; tertiary institutions; Food, Fuel and Groceries; Recreation and Food Services; Personal Services (other than recreational, and consumable goods other than fuel); Health and Welfare; Postal Services and Government; Financial; Legal and Commercial; Industrial and Construction Services; Capital Goods and Consumer Durables; and Large Composite. The various town centres are Durban, Pinetown, Chatsworth, Umhlanga, Westville, Amanzimtoti, Hillcrest, Phoenix, Kloof, Umlazi, Queensburgh, New Germany, Isipingo, KwaMashu, Cato Ridge, Mt Edgecombe, Gillitts, Prospecton, Inanda, Clermont, Umdloti Beach and Umbumbulu. The centres were tabulated in descending order in line with their number of functions and consequently their functional indices.

The centres located in the Outer West region are Hillcrest, Kloof and Gillitts. Umhlanga, Phoenix, Mt Edgecombe, KwaMashu and Inanda are in the North region. The centres found in the Central region are Durban, Pinetown, Queensburgh, New Germany, Prospecton and Clermont. In the South region, the centres are Amanzimtoti, Umlazi, Isipingo, and Umbumbulu. The hierarchy of the four functional regions in descending order in terms of their population as per the 2001 census is: North (1,112,534); Central (1,027,816); South (681,424) and Outer West (317,409).

From Table 9.30 above, it is evident that the centres offering the largest number of services are Durban, Pinetown and Chatsworth, which have functional indices of 646.3, 122.6 and 65.6 respectively. All three centres are located in the Central region. These are followed by Umhlanga and Westville, which are located in the North and Central regions respectively, and then by Hillcrest in the Outer West region, with a functional index of 50.03. The remainder of the functional matrix is an interchange of centres from the four functional regions.

One notes that Durban‟s old CBD and inner city areas dominate the entire urban system of EThekwini Metropolitan Municipality. It has the largest number and widest array of functions ranging from low order such a food, fuel and groceries to high order such as postal, government and large composite. The Durban CBD and inner-city areas are followed by Pinetown, which is also within the Central region, but some 16 kilometres away from the Durban CBD in a northwest direction at the interface of the Outer West region. In fourth place after Chatsworth, also in the Central region, is Umhlanga which located in the North region; this, in turn, is followed by Westville, also located in the Central region between Durban and Pinetown. Regardless of the

Durban central region playing second fiddle to Umhlanga in terms of population, the bulk of services from the simplest (low order) to the most sophisticated (high order) are located within the Central region. Thus spatial interaction among the regions is thus skewed towards the Central region.

From the EThekwini Municipality functional matrix, it is also important to note that low order centres with the least and less diverse services are mostly found in established African townships, some of which have pockets of informal settlements as in the case of KwaMashu (North region), Inanda (Outer West region), and Umbumbulu, a rural area located in the South region. This trend shown from functional analysis using secondary data from Braby‟s Business Directory was affirmed by interviews and FGDs with stakeholders from established townships, new RDP townships and rural settlements. For instance, in the case of KwaDabeka Section D, a new RDP settlement, the narrow range of personal services available was noted with great concern. It was noted there was only one Automatic Teller Machine (ATM) for financial services, one private surgery and no shopping mall serving the township of Clermont at large. Consequently, the community had to travel to Pinetown for such services. The same applies to Folweni and Umbumbulu, where health and welfare and personal services were said to be virtually non-existent and the community had to travel to Isipingo. On the other hand, high order centres with the largest number and most diverse functions are in the midst of formal established settlements, as is the case in Durban, which is flanked by Morningside, Berea, Glenwood, Glenmore and Westville. In the Outer West, the main centre, Hillcrest, is the middle of established formal suburbs made up of gated neighbourhoods and medium and low density housing for high and low middle income groups, mainly Whites; this is also the case in with Umhlanga in the North region.

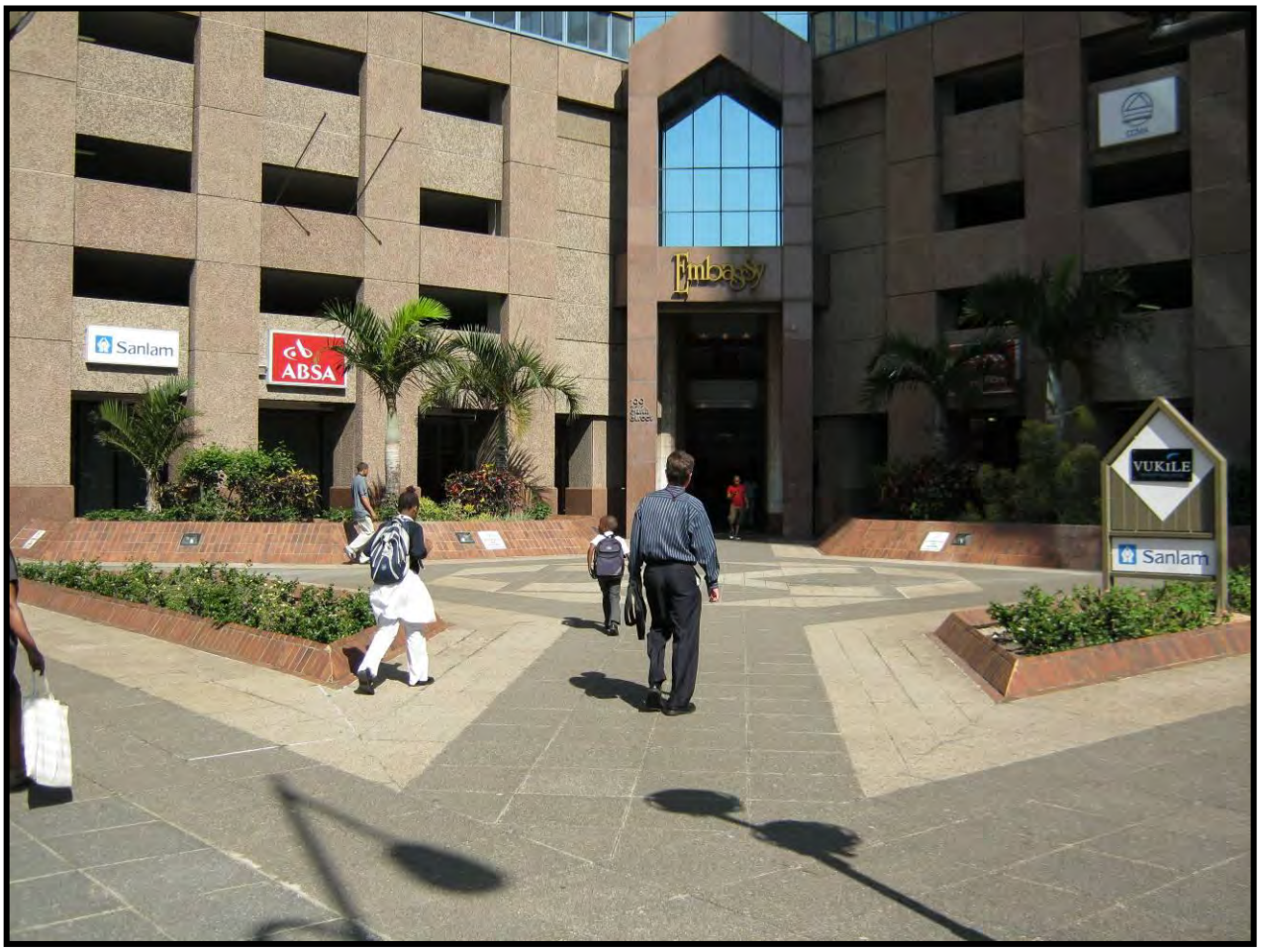
In as much as functional analysis using Braby‟s Business Directory by and large succeeded in highlighting spatial interactions among the various areas and town centres intra and inter the functional regions in a manner corroborated by the primary research data, it fell short of illuminating the informal services sector. In almost all the range of settlement typologies selected for in-depth primary study, informal services were highlighted as one of the most significant aspect of services. This is primarily because they are offered at sub-formal market prices. For instance, most shopping for fruit and vegetables, as well as clothes by people from peri-urban, rural and townships was noted to be done in informal markets in the various town centres. Another significant aspect of informal services was spiritual healing services offered by traditional healers (*Sangomas* in local Zulu vernacular) that complement modern health care services. *Sangoma*‟s services were mainly accessed in settlements inhabited by the African population sub-group. These services were given credence by

Black African immigrants from West and North Africa, who purport to have spiritual healing powers. It was noted that in the African culture, there is a belief that a *Sangoma* who can provide the best services is from a distant place and not from one"s immediate community.

9.1.6 Morphology of EThekwini Municipality

The metropolitan municipality of EThekwini"s spatial structure is a manifestation of historical and current social, political and economic forces that have shaped settlement patterns and trends in the municipality from colonial times to the present. The main zones are the old CBB, inner city areas, old industrial areas, suburbs and exurban areas. The old CBD of EThekwini Municipality, Durban is characterised by dual spaces, formal and informal. The formal part of the CBD contains the main municipal administrative offices, shops and financial institutions, as well as other commercial activities. This is shown in Figure 9.13 below. The municipal administrative offices have been situated in this area since colonial times.

Figure 9. 13: Part of the formal CBD Durban - Corner Aliwal and Smith Streets



In other parts of the CBD, from the late apartheid era to the present, the pavements and sidewalks in front of the main shops and formal business offices have been incrementally fronted and sometimes overtaken by a hive of informal economic activities such as street vending. In response, some retail shops, especially clothing outlets, have mimicked the informal traders by displaying their sales goods and items on the pavements. This trend is explicitly shown in Figures 9.14 and 9.15 below. The informalization of formerly formal spaces is by and large a pointer to premature urbanization in South Africa. Most people who thronged the cities at the end of apartheid do not have the necessary skills to be employed in the formal sector. At the same, the fact that the formal sector does not have reasonable labour absorption capacity should not be downplayed.

Figure 9. 14: Informal activities in front of Durban's main Post Office in the CBD area

Figure 9. 15: Informal activities on the sidewalk of West Street in front of formal retail shops in the CBD area of Durban

As if this is not enough, EThekwini Municipality has a truly informal CBD known as the „Market" on the south western side of the main CBD, where informal economic activities catering for the lowest end of the market are in full force. The activities engaged in at the „Market" range from criminal to legal, and those in-between such as fruit and vegetable vending, traditional Zulu and other traditional medicines (*muti*) vending, and fortune telling. The „Market" was established as a commercial area for Africans during the colonial era, but with the demise of colonialism informal activities have since flourished in the area. The activities at the „Market" area of Durban are graphically shown in Figures 9.16 and 9.17 below.

Figure 9. 16: 'Muti' market in the Durban 'Market' area

Figure 9. 17: Informal traders at the Market area

Around the Durban CBD area of EThekwini Municipality is the inner city area, mostly consisting of high rise apartment accommodation. This area is characterized by pockets of slums, such as those in Albert Park in the south and the Point area in the north where migrants, mostly from African countries such as Zimbabwe, Congo, Malawi, Nigeria and Tanzania are domiciled, earning a living mainly from informal activities, some legal and others illegal. In the inner city area, there are also gentrified areas such as those in the Point area which are a product of urban regeneration and revitalization initiatives and affiliated tax holidays for inner city area development offered by the post-apartheid South African government. Figure 9.18 shows an area undergoing decay in the Durban Point area.

Figure 9. 18: Area of urban decay in the Point Inner city area of Durban

Spanning from the inner city area southwards is the sector made up of old, declining light industries. There is also another industrial area south of the inner city of Durban, in the South Durban Basin where mainly chemical industries are located close to low income, mostly Coloured and Indian residential areas; this is a legacy of apartheid planning. The west and north of the inner city area is mostly made up of suburban residential areas. These areas contain both informal and high income residential neighbourhoods. Private, medium density neighbourhoods include the Berea, Glenmore, and Manor Gardens. These houses were mostly built between the First and Second World Wars.

During the late apartheid era commercial and professional businesses such as planning, architecture, engineering and legal consultants established themselves in this area. Flanking these areas are low income housing settlements such as Cato Manor, which are a product of post-apartheid government‟s RDP initiatives. Next to the low cost formal housing neighbourhood of Cato Manor is the informal settlement of Mayville which is characterized by squalor and living conditions best understood by those living in them. This area is shown in Figure 9.19 below. Still in the suburban area of Durban going north and further west from Cato Manor, are high income, low density neighbourhoods such as Westville and Morningside where some commercial and professional services have also relocated from the old CBD.

Figure 9. 19: Cato Crest informal settlement next to Cato Manor Formal Township

After the suburban area of EThekwini Municipality is the exurban area. The area is a reflection of pre- and post-1994 South African social, economic and political processes. It is made up of established Indian and African townships that were created during the apartheid era, such as Phoenix

(North), KwaMashu (North) and Umlazi (South). Figure 9.20 shows the Umlazi established township to the south of Durban‟s CBD.

Figure 9. 20: Residences in the established township of Umlazi

In the exurban area there are also high income residential estates such as Hillcrest in the west and Umhlanga in the north; these are appended to exurban shopping malls and town centres such as Hillcrest (west), Umhlanga (north) and Gateway (north). This is where most of commercial activities that have been relocating from the old CBD of Durban moved. These town centres are complemented by clustered office parks around them.

After the exurban area of EThekwini Municipality is the rural urban fringe which is also characterized by a plethora of land uses in different areas reflecting local and global narratives. The rural-urban fringe in the west of EThekwini Municipality, in the Outer West functional region is made up of established African townships, peri-urban settlements, traditional authority and informal settlements. These are the areas of KwaNyuswa, Molweni, Ngcobosi and Inanda. Figure 9.21 below shows rural settlements at the periphery of EThekwini Municipality. Also in the rural urban fringe

are areas that can be best described as enterprise development zones characterized by industrial clusters such as the Isipingo area in the south and the Dube Trade Port located north of Umhlanga, which can be best described as an enterprise development zone with a competitive focus sensitive to value added in trade and containing an airport, cyber port and intermodal yard with rail access. Dube Trade Port also has human resource centres and incubator facilities.

Figure 9. 21: Rural Settlement of Umbumbulu at the peripheral south of EThekwini

From the different zones in EThekwini Metropolitan Municipality highlighted above, it is apparent that the municipality has a polycentric structure. Furthermore, the metropolitan spatial structure is a product of multiple and sometimes competing and conflicting narratives. There are different and diverse stakeholders involved in the day-to-day developmental issues of the municipality. City governance has to be responsive to the interests of poorest of the poor staying in low cost formal and informal settlements, as well as big business interests in line with competitiveness imperatives. These agendas have been manifested spatially as is the case with new low cost incremental housing and enterprise development zones. On the hand, the narratives of private property developers represent

the interests of the affluent in opulence and exclusivity as shown in the exurban high income residential estates and shopping malls. There are also narratives of the poor which are centred on basic needs such as shelter, food, water and sanitation, all which are translated into informal spaces. Some of the narratives of the poor in the context of governance complement the activities of civic organizations and international NGOs such as UN Habitat and the European Union which are supporting the poor through squatter settlement upgrading.

Other discourses shaping the metropolitan space in EThekwini are those from traditional authority areas such as Umbumbulu in the south and Ngcolosi in the west. The stories emanating from these areas reveal impressions that electoral authority in the form of councillors and ward committees is there to usurp their traditional powers. These narratives are manifested in *ad hoc*, unsystematic settlement layout characterized by both modern and traditional built forms because of the arbitrary allocation of land and the failure to apply modern building standards. Therefore, the paradigm underpinning the morphology of EThekwini Municipality is the post-colonial paradigm, which pays homage to diversity and multi-culturalism as well as contestation in the construction of landscape identities and meanings.

9.2 Synthetic Analysis of Settlement Patterns and Trends in EThekwini Municipality

The different settlement typologies in EThekwini Municipality have, by and large, revealed different population, economic, and functional characteristics. In relation to population, population projections for the municipality as a whole based on assumptions about the three components of population, namely, mortality, fertility and migration placed annual population growth projections between 2005 and 2035 at five year intervals at between 0.1 and 0.42%. This relatively low growth rate is understandable in the context of HIV/AIDS and also anticipated the perpetuation of historical fertility decline trends. However, this growth rate is difficult to apply to projecting population at the ward level, the smallest unit of analysis in this research study, as population growth rates at ward level can also be a function of other variables such as government intervention in the form of new housing projects. What could be clearly ascertained based on the smallest unit of analysis (the ward) in this research study, are the demographic characteristics of the various population groups staying in the different settlement typologies of the municipality.

The African population sub-group is, by and large, settled in the established African townships, new RDP townships, informal settlements and peri-urban/traditional authority rural areas at the metro-fringes. Although the African population sub-group has incrementally settled in formal housing

settlements traditionally reserved for the White population sub-group during the apartheid era, it is mostly still currently settled in these areas. Between 1996 and 2001 these areas harboured the largest population in all the functional regions of the municipality and they also grew at a tremendous rate. In the Outer West region where eight out of 10 wards are mostly composed of the African population subgroup domiciled in areas that include peri-urban/rural, informal and established townships, the growth rates ranged from 6.4 to 163.6%. Although some of these areas lost population, growth by far surpassed the loss. This was also the case in the North, Central and South regions areas such as KwaMashu, Clermont, Cato Manor/Mayville, Umlazi, Folweni and Umbumbulu, all of which gained substantial population between 1996 and 2001. During field visits to collect primary data it was confirmed that the African population sub-group is still resident in informal, established township, peri-urban and rural settlement typologies.

Both the primary and secondary data have shown that, besides being the most populous and experiencing tremendous growth rates the other key demographic characteristics of the areas where the African population sub-group stays are youthful populations in the economically active category, smaller household sizes, a relatively high number of informal dwellings than in any other part of the municipality, relatively high levels of infrastructure backlogs, low educational levels for those above the age of 20 (most have less than grade 12), high unemployment rates (in some cases hovering between 50 and 60%), low labour participation absorption rates, high labour dependency ratios, low annual household incomes, elementary occupations and the fact that most formal employment is in the community/social, manufacturing, private households and wholesale/retail sectors. Furthermore, some of the areas also face backlogs in terms of access to community facilities such as primary health care, fire stations, community halls, libraries, sports fields, soccer fields, stadiums, primary schools and police stations. As if this is not enough, intra-EThekwini metropolitan functional analysis revealed that town centres close to the areas where Africans are mostly domiciled have none or at most close to zero agglomeration economies as they have a narrow range of services at their disposal. Implicitly, as most employment comes from the service sector, it means these areas do not have employment opportunities at their disposal; where they do, long journeys to work are experienced as most of the services are clustered within formal established areas such as Durban, Umhlanga, Westville, Pinetown and Hillcrest.

Most of the established Indian townships where the Indian population sub-group has historically been domiciled and is still by and large, experienced population growth between 1996 and 2001, but nowhere near the magnitude in the areas where most Africans stay. The population growth rates in

areas such as Phoenix and Wentworth ranged from 2.52 to 13.91. In terms of dwelling types, infrastructure, education, unemployment rates, labour force absorption and participation, sectors of employment, occupation types, annual household incomes, access to facilities and the range of functions available in the areas, the Indian-dominated settlements are relatively better off than the African areas. For instance, in terms of education, most of the over 20 year olds in these areas have grade 12 and secondary education and a sizeable number also has post secondary qualifications. The unemployment rates are also not as obscenely high as in African-dominated settlements as they ranged between 15 and 30% in 2001. In terms of functions, Chatsworth, which is a town centre within a traditional Indian township, offers a range of services, lying third on the 2010/2011 EThekwini Municipality functional matrix. The characteristics of the Coloured-dominated areas such as Adams Mission and Wentworth are by and large, similar if not superior to the Indian-dominated areas.

Between 1996 and 2001, some White-dominated areas experienced negative population growth as is the case with Westville, ward 17 (-11.33), Reservoir Hills (-15.04) and Kloof/Gillitts (-0.1). Other areas, such as Durban North, witnessed a population increase of 6.3%. In terms of education, employment rates, facilities, and services, these areas are way superior to any other part of the metropolitan municipality, as revealed by the EThekwini Municipality 2010/2011 functional matrix as well as interviews and FGDs.

9.3 Analysis of EThekwini Municipality Integrated Development Plans

From the synthetic analysis of EThekwini Municipality based on secondary and primary data it is clear that the African population which makes up the bulk of metropolitan population and was socio-economically marginalized by pre-1994 segregationist settlement policies is living in abject poverty. In 2001, the African population sub-group constituted approximately 2,101,029 out of a total metropolitan population of 3,090,215 which translates to 68%. The synthetic analysis based on secondary and primary data from interviews with key stakeholders from the settlements representing various typologies in the province of KZN in the metropolitan municipality of EThekwini has shown that most Africans are living in poverty. The majority are domiciled in established townships, new RDP townships, informal settlements and peri-urban and traditional authority rural areas characterised by relatively high population growth rates, youthful populations, low educational levels, high unemployment rates (50 – 60%), low or no annual household incomes, a large number of informal housing dwellers, high levels of infrastructure backlogs, inferior access to facilities.

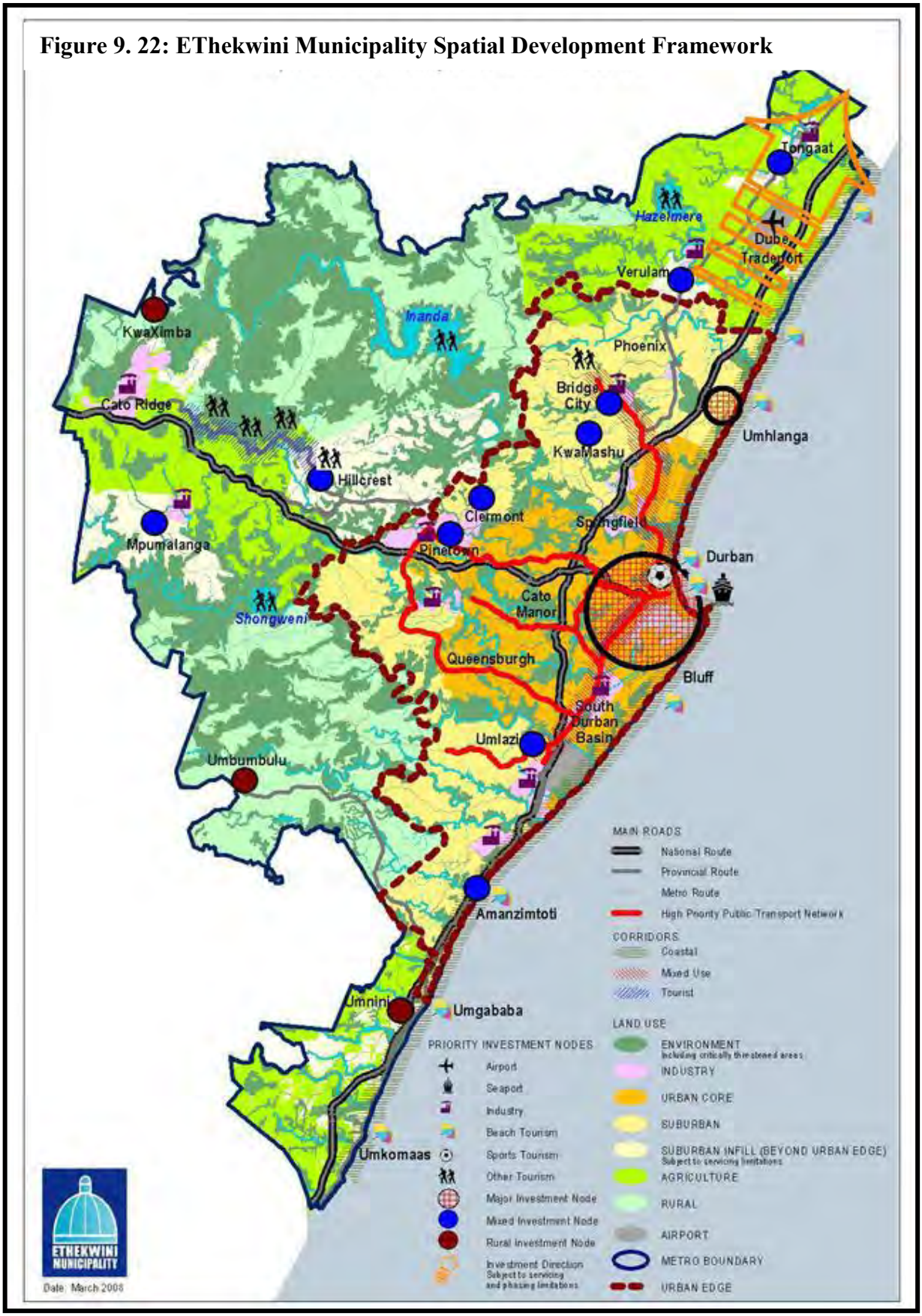
Furthermore, these areas have town centres that have little or no functional integrity as they have a narrow services base.

On the other hand, the minority population sub-groups in particular the Whites, is residing in neighbourhoods well supported by both primary and secondary infrastructure with a wide array of services. The economic characteristics of people in these areas reveal relatively superior education and post-secondary skills training and insignificant unemployment rates.

This situation in the municipality is further perpetuated by the fact that the Municipality‟s IDPs are naively perpetuating these settlement patterns and trends. Although the objectives of the Municipality are clearly stated as promoting employment, providing basic services and enhancing environmental integrity on the ground, this is far from the case. These objectives have been translated into the narrative of compact city development which is physically given effect by the Municipality‟s Spatial Development Framework (SDF), an IDP tool meant to spatially guide all developments in the Municipality in line with the its objectives. The SDF of EThekwini Municipality‟s IDP is shown in Figure 9.22 on the following page and the Local Development Plans (LAPs) for the Outer West region, South region and North region are shown in Figures 9.23; 9.24 and 9.25 respectively.

From Figure 9.22 on the follwing page one notes that the main structuring elements of the Municipality‟s SDF are urban edge; environmental assets; and investment networks made up of investment corridors and investment nodes. The urban edge concept shows the areas within the municipality where new developments are promoted as a way of combating urban sprawl through high density, mixed use developments. However, this concept is ironic due to the fact that metropolitan municipality of EThekwini has already sprawled; there are parts of the municipality already outside the so-called urban edge identified by the municipality‟s SDF. Furthermore, a shortage of land for new housing development within this urban edge has meant that new housing developments are still occurring in Local Area Plans for the Outer West; South and North regions. Figures 9.23; 9.24 and 9.25 respectively, show new housing development plans in areas way outside the urban edge at the periphery of the municipality. Therefore, one is justified in arguing that the urban edge concept in EThekwini Municipality as a means of promoting compact city development is nothing other than symbolic and unsustainable, due to sprawl. Thus the urban edge should actually be the metropolitan municipal boundary itself.

Figure 9. 22: EThekwini Municipality Spatial Development Framework



Source: EThekwini Municipality IDP (2010)

Figure 9. 23: Outer West Local Area Development Plan

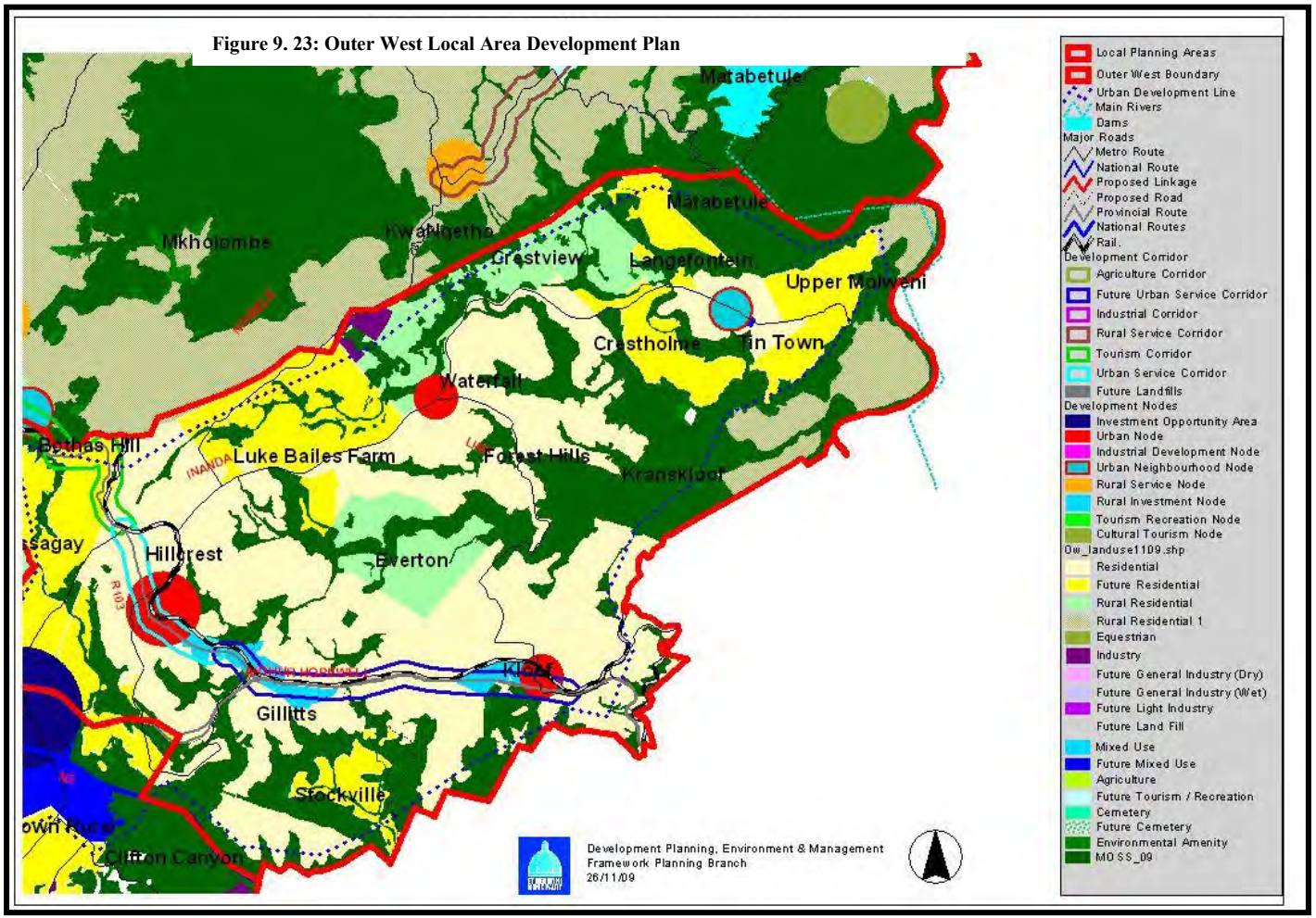
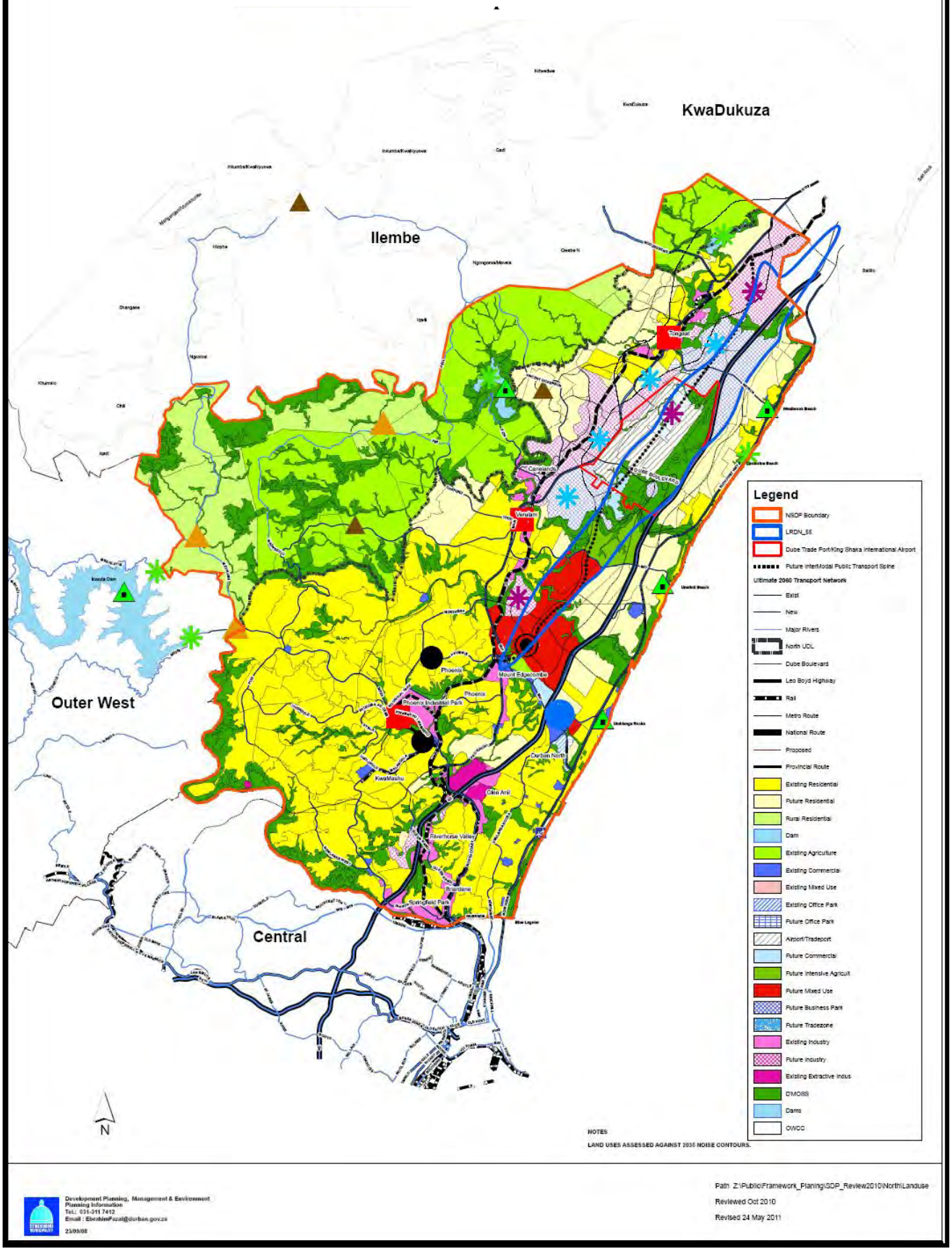


Figure 9. 25: North Region Spatial Development Plans



The environmental assets concept of the SDF shows environmentally sensitive areas that need long-term protection from the encroachment of new developments. Investment corridors show where public and private investment can be channelled along the main transportation routes of the municipality especially along main corridors and collectors. There are three main groups of investment nodes, namely, major economic investment nodes, mixed investment nodes and rural investment nodes. There are only two areas where major economic investments can occur, namely, the South Durban Basin (Central functional region), Durban CBD and its surrounds (also in the Central functional region) and Umhlanga in the North region. The rest are minor mixed investment nodes. As such, one notes that the investment framework given effect by the concept of major economic investment nodes in the SDF is nothing more than the preservation of the *status quo*, as it is mainly based on nodes that have been dominating the metropolitan spatial system since time immemorial. This is true of the Durban Central precinct, the Central functional region and the rising centre of Umhlanga in the North region.

EThekwini Municipality‟s IDP is therefore clearly neglected and is a reinforcement of the settlement challenges of pre-democratic apartheid spatial policies. Firstly it has been shown that the urban edge concept that is used promotes sustainable compact environments in the municipality and is clearly a neglect or denial of the rights of people already peripherally located. In the face of land shortages within the so-called urban edge, new housing developments will continue to occur outside the edge. Primary research has also revealed that some people from established townships such as Umlazi within the urban edge are relocating in peripherally located areas of the municipality such as Umbumbulu due to lifestyle preferences. Furthermore, the identification of only two town centres in two functional regions of the Municipality as major investment nodes out of the four functional regions of the Municipality represents utter disregard for the polycentric nature of metropolitan space and the latent potential that exists in other centres. For instance, awarding the Pinetown area inferior mixed use investment node status is a mockery of agglomeration economies potential in the area that was revealed from the functional analysis conducted by this researcher. Furthermore, excluding Isipingo from the league of major economic investment nodes also side-steps the latent potential in this area revealed by the functional analysis conducted by this research study. This finding is reinforced by an expert in the field of planning settlements in KZN who notes that the economic woes of the South region are a classic case of institutional neglect of the economic potential of the region which results from population concentration on the edge of the EThekwini boundary as well as the direct access of the South region to the rest of the KZN province.

It is clear that the IDPs of EThekwini Municipality are unlikely to provide a sustainable future for the municipality as the peripherally located socially and economic depressed areas such as Umbumbulu, Umlazi and Folweni, all in the South, and KwaXimba, Ngcolosi and Mpumalanga in the Outer West. The areas continue to be deprived of major economic investment at the centres that have latent potential closest to them. The situation is further perpetuated by the municipality‟s local economic development initiatives, which are spelt in very unclear terms. For example, the Municipality‟s IDP speaks of skills development, a noble idea, as the economic analysis has shown that people in areas mostly inhabited by Africans have only elementary education and occupations. However, the question that needs to be answered is what skills are to be developed, for which sectors of the economy and why?

From the synthetic analysis of EThekwini Municipality, one notes, that, the hypothesis postulated at the beginning of this research study has been validated. This hypothesis research states that: „In spite of post-1994 intentions to create more compact sustainable settlements as expressed in various South African policy documents, the prevailing settlement pattern in KZN shows little change to date and there are signs that the emerging trends are not sustainable‟. In view of the shortcomings of the municipality‟s IDPs, the researcher recommends an alternative framework for guiding public and private investment in the Municipality on basis of the empirical synthetic analysis of emerging settlement patterns trends in the Municipality conducted by researcher.

The starting point is the reasoning derived from the literature review that the malady of African cities is their failure to create agglomeration in towns and cities. It is no wonder that there is no significant middle class, as one is either part of the small upper class and part of the majority in the low income bracket. It is along this line of reasoning that the polycentric nature of metropolitan space is alluded to in EThekwini Municipality and that it is suggested that the artificial urban edge be removed and replaced by the true administrative urban edge, which is the metropolitan boundary. Secondly for purposes of planning and managing development plans the functional regions should also be redrawn. The Pinetown area, especially the town centre and the surrounding industrial areas, should be incorporated into the Outer West region because of its proximity to Hillcrest town centre and the rest of the region. This proximity implies that most people in the Outer West region are likely to be employed in economic activities in the area; if the areas expand economically on the basis of the latent potential shown by the functional analysis more people are also likely to work closer to their places of residence. Secondly, it is proposed that the South functional region boundaries of the municipality be redrawn to accommodate parts of the SDB as Isipingo, one of the main areas of

economic activities, is semi-attached to the SDB. Most people in South region are likely to be employed in the SDB and at Isipingo as they closest economic centres.

Furthermore, major economic investment nodes need to be established in areas that show latent potential in all four functional regions of the Municipality to act as economic stimulants and champions for the regions. The major economic investment nodes in the North and Central regions in the current municipal SDF will be retained but major node development status should be granted to Isipingo in the South and the Pinetown-Hillcrest area in the Outer West. The remaining minor mixed use investment nodes will be retained for the purposes of this proposal, although they might require further investigation.

In areas granted major economic investment node status and their surroundings in their functional regions, a multi-pronged approach to public and private social and economic investment in developing sustainable settlement development plans is proposed which pays homage to the heterogeneous nature of the post-colonial EThekwini Municipality. The approach is envisaged to embrace both pro-growth and pro-poor LED strategies with a view to tailoring them to the local context as a way of taking care of the rank and file, as well as the middle and upper classes.

Pro-growth LED strategies adopted globally in both developed and developing countries, as the literature review has shown, include developing economies based on high technology industry, Research and Development support, Science Parks and technology transfers, revitalizing and modernizing existing industry, more efficient organization of production, developing new products and diversifying markets, developing and expanding the service sectors and the creation of industrial clusters. These measures are envisaged to be employed in various major economic investments in the four functional regions in a tailored way to suit the local context, depending on knowledge of the finer details of latent economic potential in the regions which might be obtained for purposes of operalizationing this proposal by major business stakeholders in the different functional regions.

The literature review has noted that pro-growth LED strategies mostly cater for the upper end of the labour market, as the majority of the population do not have the skills to work in advanced services and high technology industries. This is also the case in EThekwini Municipality. As such, pro-poor LED strategies are proposed at each proposed major economic investment node as well as the surrounding areas. Their thrust is envisaged to include the creation of flexible workforces, workfare programmes, equity planning, linked developments, popular planning and promotion of the social economy.

The creation of a flexible workforce is underpinned by an understanding of the volatility of local economies caused by the intensification of global economic linkages. Flexibility allows employers to hire and fire workers, to use non-standard forms of employment (part-time, contract, casual, and temporary workers), deploy workers across different functions and exert much control and discretion over wages (Martin, 2003: 466). Workfare programmes were pioneered in the USA; they entail the provision of social benefits to the unemployed on condition of compulsory participation in state subsidized work and training programmes. Equity planning is the work of planning professionals in influencing opinion and the representation of marginalized communities. Linked development includes policies like inclusionary zoning and a requirement that stakeholders in development such as private property developers or investors hire labour from certain localities. Popular planning includes the formulation and implementation of community development programmes together with stakeholders and communities targeted by the interventions. Finally, promotion of the social economy entails promoting the informal sector through measures, among others, such as the formation of cooperatives. These measures are envisaged to be implemented based on the local conditions as well as international inferences and comparisons.

9.4 Conclusion

This chapter demonstrated the pragmatic application of the synthetic methodology of empirically assessing settlement patterns and trends in order to guide the formulation of sustainable settlement development plans. This was done using the province of KZN and EThekwini Metropolitan Municipality as case studies. EThekwini is an administrative urban area which is made of a wide array of settlement typologies which represent the variety in the province of KZN at large. These settlements range from traditional authority rural areas to established, high income gated communities and those in between such as informal and peri-urban typologies, to mention but a few. In the process of empirically demonstrating the use of the synthetic methodology, the hypothesis of the research study was also tested. The practical usage of the synthetic methodology involved a wide array of data sets, namely, demographic, economic, access to facilities, functional and primary and secondary texts for argumentative discourse analysis (ADA). Thus, in practice, the use of the synthetic methodology requires the cooperation of various stakeholders in governance with different information and expertise in different spheres of the synthetic methodology of empirically assessing settlement patterns and trends.

10. Chapter Ten: Conclusion: Synopsis of the Research and Recommendations

10.1 Introduction

This chapter provides an overview of the entire research study. The overview is presented in the form of a synopsis on the extent to which the main research objective was achieved. In the process, the study‟s contribution to knowledge is also highlighted; followed by the recommendations arising from the study. The main recommendation is the use of the new synthetic model of assessing settlement patterns and trends developed by the researcher to guide sustainable settlement development plans based on the key milestones in the research process.

10.2 Synopsis of the research objectives

There are multi-faceted settlement challenges globally, specifically in the developing world where there are high unemployment rates, shortages of basic services such as health, sanitation, shelter, diseases such as HIV/AIDS and environmental challenges. In the South African context, regardless of the policy intentions to promote sustainable and more compact human settlements since 1994, as a way of dealing with the legacy of colonial exclusionary planning, spatial inequalities and poverty remain in both established African townships and new low cost housing settlements, as well as in peri-urban and rural areas. The causes of these challenges include the legacies of colonial exclusionary planning policies, natural disasters such as drought, lack of capacity and skills on the part of government officials, a shortage of well located land for low cost housing, cities with few agglomeration economies and the volatility and unpredictability of global markets in the era of globalization. The researcher noted that all these multi-faceted settlement challenges are faced in a world where there is no tool to synthetically assess them to guide the formulation of sustainable settlement development plans. Accordingly, the overall objective of this research study was developing a synthetic framework of assessing settlement patterns and trends to guide sustainable settlement development plans. The rationale behind the study stemmed from the simple observation and understanding that a settlement is an amalgam of people, socio-economic function and morphology, all which are interlinked and affect one another in different ways depending on the context.

In order to meet the above mentioned overall objective, the researcher split it into sub-objectives, namely, developing a synthetic theory of settlements; its application to the analysis of international and local practices and policies on regional economics, service provision, urbanization and urban growth, demographics and discourses shaping settlement patterns and trends to aid learning through cross reference and comparisons; developing a synthetic methodology for empirically assessing

settlement patterns and trends in order to practically guide sustainable settlement development plans; demonstrating the practical usage of the synthetic method of empirically assessing emerging settlement patterns and trends using the case study of KZN province and making recommendations on the use of the synthetic framework for assessing settlement patterns and trends.

Developing a synthetic theory of settlement patterns and trends started from the premise that the term „settlement" refers to people living in a place performing socio-economic functions. As such three interrelated concepts: people, function and place (morphology) are the key structuring elements of the term. Therefore, a synthetic theory of settlements was developed based on combining these separate but related elements of settlements to form a coherent framework of conceptualizing settlements which comprises theories and models of function, population and morphology.

Settlement function is by and large accounted for by the central place theory, which notes that the need for centrally located services gave rise to centrally located places that provide services for their own people and those living in its surroundings. Here, issues of population thresholds to sustain services provided by central places and the distance people travel to access services are central. However, the central place theory fails to consider that some places that end up providing services to people do not emerge necessarily because of the demand for services but rather due to the need to exploit or utilise localized natural resources such as minerals or water; however, they also end up providing services to people. Thus the distribution of central places is not constant, but varies in time and space depending on difference in natural resource endowments. Furthermore, the role of human agency in establishing central places for social, economic or political reasons is important in determining their distribution, rather than only issues of services range and thresholds as postulated by the central place theory. Differentiation can therefore also lead to some central places providing certain specialized social and economic functions at the expense of others.

However, it should also be noted that the central place theory, difference and differentiation fail to aptly capture the diversity of social and economic functions and needs in places, as they provide blanket explanations about places and their people based on demand for services, natural resources and policy intentions, respectively. In a world where there are diverse, converging and diverging individuals and interest groups with different needs and interests depending on the context, a patchwork of styles, interests and needs are responsible for determining the social and economic function of settlements. Thus heterogeneity can aptly comprehend the social and economic function of places and their people.

The other structuring element of the term settlement, namely, population, points to people occupying a particular place performing particular social and economic functions whose characteristics are impacted by preceding concepts or *vice versa*. Understanding population characteristics is facilitated by demography because of its pre-occupation with the physical and socio-economic characteristics of people such as gender, age, birth and death rates, levels of income and prevalence of disease and pestilence, to mention but a few. Nevertheless demography alone is not sufficient to understand population characteristics as it does not take into account changes in people‟s characteristics depending on the nature of the social and economic functions at their disposal, which brings in notions of rural and urban places. These two kinds of places are mostly differentiated on the basis of a range of criteria, namely, population densities, structure and layout of people‟s buildings, and the economic activities people engage in. Aspects of people integral to people‟s demographic characteristics are captured by the terms „urban growth‟ and „urbanization‟. Urban growth denotes an increase in the number of people living in areas that are classified as urban, whilst urbanization points to the proportion of people living in areas classified as urban in a given locality. Urban growth is mostly conceptualized in terms of the stages of the urban growth model, while urbanization is conceptualised by the demographic transition model and the affiliated urbanization curve.

The limitation of urbanization and urban growth models is that they only capture how urbanization and urban growth unfold in space and time while neglecting the underlying causes of people‟s movement to and from urban places and within and among the urban places. As such, theories of migration are brought in for this much needed explanation. Migration is aptly conceptualized by the synthetic theory migration developed by Douglas Massey (2002) which is made up of an array of reasons why people move. The theory is operationalized by a body of six theories, namely, neo-classical economic, new economics of labour migration, segmented labour market, world systems, social capital and the cumulative causation theories.

Morphology, the last structuring element of the term „settlement‟„ is an appreciation of the physical manifestation of people‟s occupation of the earth‟s surface based on the need for central services, difference, heterogeneity, and demographic characteristics. These give settlements their form and layout. The morphology of settlements is provided by various models but the most appealing is White‟s Model of the 21st century city which alludes to the heterogeneous nature of zones and forms within cities which include enclaves of ethnic minorities and migrants, squatter settlements, gated communities, ex-urban shopping malls, information warehouses, and ICT zones, to name but a few, which give cities polycentric forms. This structure represents the diversity and heterogeneity of

spaces in both the developing and the developed world, as shown in the case study area of EThekwini Municipality. Models of settlement morphology only show the spatial imprint of people‟s activities without giving an explanation of how they come to spatially manifest themselves in certain locations and shapes in the context of competing interests. Considering the changes in state politics, economy and the knowledge industry brought about by the techno-economic paradigm, the most credible explanation of settlement morphology is one that side-steps classical Marxism, urban managerializm and the political economy paradigms such as post-modernism and its sister paradigm, post-colonialism.

Thus, for one to comprehend settlements fully there is need for a deep understanding of the various theories and concepts that explain settlement function, population and morphology. These three concepts are interrelated and from the above summary of their underpinning models and theories one can firmly conclude that none of them is complete without the others. As such without population, function and morphology, an incomplete picture of settlements is given or there is no settlement at all. This illumination was facilitated by bringing a thesis and anti-thesis to all three components of settlements from within and without before finally arriving at a synthesis of settlements based on the various theses and anti-theses of function, population and morphology. In this regard the research study makes a significant theoretical contribution to planning and related disciplines by coining a new theory „*synthetic theory of settlement patterns and trends'*.

In order to facilitate learning through cross-reference and comparison, the synthetic theory developed was applied to an analysis of precedents in policies and practices in regional economics, urbanization and urban growth as well as the underpinning paradigms of settlement morphology in the developed and developing world, including South Africa and the case study of KwaZulu-Natal province. From the synthetic analysis of literature, it emerged that in both the developed and developing world the social and economic functions of settlements evolve through different historical epochs by duplication and modification of trends and patterns from preceding formations in ways that influence both the population and morphological characteristics, or ways that are influenced by population or morphological characteristics, depending on the context. For instance, during the ancient era in the developed world, people were mostly hunters and gatherers and as such places were hunting sanctuaries for sparsely populated people with no fixed abode. With the invention of agriculture, people started staying in agricultural villages relatively small in size and made up of stone dwellings. When the industrial revolution started due to technological innovation, people displaced from employment in agriculture because of technological innovation thronged the cities to find industrial

employment. Most of the cities established during the industrial revolution were based on the localization of natural resources, such as coal, iron ore and navigable water as in the case of port cities.

It should be noted that in the developed world, various patterns of urbanization and urban growth with different challenges manifested themselves due to different factors and forces that influenced the social and economic function of settlements. In the early industrial era during the 19th century especially in Europe, urbanization and urban growth was largely at the intermediate primate city phase stage, because most people were concentrated in few large cities that were cantered on manufacturing industries based on the exploitation of natural resources. As urban growth moved into the advanced intermediate primate city stage, it became characterised by suburbanization which was fuelled by various factors, such as the invention of the internal combustion engine, the garden city movement and lifestyle and cultural preferences of the nuclear family such as raising children in decent, suburban locations.

The concentration of people in the early industrial cities in the 19th century brought untold settlement challenges in terms of health. Overcrowding and poor sanitary arrangements in turn, led to differentiation of city spaces based on public health concerns. Local authorities were called upon to draft and operationalize building by-laws to regulate street widths, structure, lay-out and the height of buildings.

It should also be noted that during the early industrial period the demographic characteristics of the population entailed relatively high birth and death rates in cities due to pandemic outbreaks caused by germ and vector-prone living arrangements. In rural areas conditions were slightly better; thus birth rates and death rates were relatively high and hence rural to urban migration was the source of urbanization and urban growth. In this context, the classical economic theory of migration reigned. Another characteristic of the population was the mass toiling of proletarians, as a small bourgeoisie class controlled the means of production and lived in pomp and affluence on the basis of exploiting the working class. It is no wonder that it was during this era that Marx and Engels (1848) launched the *Communist Manifesto* agitating for the trouncing of capitalism by communism on the basis of the proletariat developing class consciousness and in turn becoming a class unto itself. Marx and Engel‟s theorizing of early industrial cities has been discredited on various grounds, one being the argument that Marx himself, the main architect of the *Communist Manifesto* could not participate in the labour market. There were rumours that he had sore armpits and that he turned against the capitalist system

because it could not accommodate his condition. However, if one takes a spatio-temporal approach to industrial capitalism, the Marxist thesis holds water. The cholera and diarrhoea outbreaks decimated the poor proletariat in crowded tenements, while the bourgeoisie were domiciled in secluded, harmonious environments sealed off from infectious environments of the poor. For this reason, Marxist theory provides an instructive story of the early industrial cities.

With technological improvements, the advent of city planning ideologies and labour law reforms at the turn of the 20th century, the differentiation of early industrial cities largely on the basis of ownership of the means of production was diluted as cities sprawled due to suburbanization. During this phase, the morphology of cities could largely be accounted for by the Chicago School Model of urban morphology. The Chicago School argues that the morphology of cities is a product of competition among land uses for the most strategic locations within cities, which in turn leads to the most expensive occupying the most strategic locations in a way similar to the natural laws of ecology.

As technological improvement progressed in the 20th century, mass production of goods provided ample grounds for the growth of agglomerations as the manufacturing sector expanded, attracting more ancillary service functions. However, because of congestion and the loss of prime agriculture land because of urban sprawl, agglomeration economies were rendered diseconomies. Furthermore, problems of unbalanced development and poverty in depressed regions increased as the wealth of nations was increasingly concentrated in a few cities that had been established during the early industrial period on the basis of natural resource endowments, as in the case of London in Britain and the Ruhr region in Germany. This problem in turn led to the establishment of new towns in depressed regions based on the manufacturing sector to provide employment in these regions and at the same time decongest major urban centres. This brought different patterns of urbanization and urban growth. The notion of counter urbanization and the affiliated intermediate city stage of urban growth and urbanization took centre stage. The urban system in most developed countries by the mid-20th century was made up of large conurbations as well as cities of intermediate size.

However, since both the large cities and the intermediate sized cities were tied to the manufacturing sector, the dawn of the techno-economic era at the turn of the 20th century turned the tables in relation to settlement function, population and morphology. The manufacturing sector plummeted. The advent of this period places issues of competitiveness and the service economy at the fore. Mass poverty and social exclusion surfaced again in the developed world. Since the dawn of the techno-

economic era, developed countries have adopted policies that pay homage to the homogeneity of landscape identities and meaning. This is shown by various pro-growth pro-poor LED policies that seek to cater for the bottom and top ends of populations and those in between. There was allusion to the fact that with the dawn of globalization which calls for flexibility in the context of competition among nations, people cannot continue to be truncated as a single homogeneous slate whose needs can mostly be met from employment in the manufacturing sector as well as government interventions. The manufacturing sector was declining at alarming rates in the face of competition from new economic players that had come on board, such as Japan. This situation was exacerbated by labour unions that demanded high wages for workers. The state‟s power to formulate and implement policies aimed at realising development goals was diminishing in the face of revenue loss. Thus the notion of governance was introduced with the aim of promoting interaction among the various stakeholders in the implementation of pro-growth and pro-poor LED strategies.

These developments at the turn of the 20th century had drastic consequences for population characteristics. Social exclusion became the norm in the developed world cities as affluence and poverty were juxtaposed. The rich became filthy rich and the poor poorer as the state practically washed its hands of the plight of the poor by adopting measures such as endorsing the social economy among others. Furthermore, female labour participation increased as the service economy emerged side by side with feminism, with the UN declaring the years 1975 – 1985 as the decade for women. The UN recommended legal equality for women, an improvement in the substandard role(s) of women in the economy and the awarding of an equal share of power to women. Although the emergence of the service economy and feminism gaining of ground is a debate for another day, it is nonetheless a crucial coincidence. There is reason to believe that feminism was fanned by the need for nimble fingers in the flexible capitalist enterprises wrought by the emergence of the techno-economic era. During the early industrial and Fordist eras, there was a deafening silence on women‟s rights, probably because the nature of the mostly physical industrial work suited the male biological make up. Thus during the current techno-economic era most of the developed countries have reached the fourth and final stages of the demographic transition model where birth and death rates are low and population growth rates are close to zero.

All the social and economic settlement functional changes brought about by the turn of the 20th century have been translated into their morphology. White‟s model of the 21st century city is the most appropriate model of settlement form. A key characteristic of cities in the 21st century is their polycentric nature, where there are dual spaces characterized by pockets of ethnic minorities (a result

of years of in-migration during the glory years of the manufacturing sector) in declining inner city tenements, informal economy zones, declining industrial zones, R&D institutions, information warehouses, exurban plush residential estates and industrial cluster zones, to mention but a few. All these zones face various settlement challenges and needs that can be dealt with by policies that acknowledge the heterogeneity of the postmodern space narrative. Therefore the story behind the morphology of 21st century spaces is found in post-modernism, through its allusion to the contestations in the making of landscape identities and meanings.

In contrast with post-modernism‟s ordering of 21st century spaces, the application of the synthetic theory of settlement patterns and trends to developing world precedents revealed that, as is the case with the developed world, the main structuring elements of settlements were influenced by various factors and forces. The only difference, particularly in Africa, is that urbanization and urban growth did not evolve organically, but were at the behest of colonial settlers‟ social engineering, although some of the catalysts were natural resources, as in the developed world. During the pre-colonial period, settlement function was largely based on hunter-gatherer principles and rudimentary agricultural practices such as subsistence farming and nomadic pastoralism. In this period populations were characterized by high birth and death rates due to unfettered disease and pestilences. Furthermore, intra and inter clan and ethnic wars further decimated populations and men were the main causalities. The wars were not only for land often regarded a source of identity, but also for cattle, considered a main source of wealth, as well as for women. Polygamy was the norm with natural laws of selection; and the doctrine of the survival of the fittest reigned – the strongest men had the largest number of wives. There are cases where polyandry was practiced, as is the case in present-day Ghana alluded to by social anthropologist Ifi Amadiume in her book *Male Daughters, Female Husbands* (1987). However, in most pre-colonial states, such as the Zulu nation in South Africa, the local clans were decimated during inter and intra-clan wars. It was only after the colonial settlers arrived during the Great Trek and when the Boers ran away from the British annexation of the Cape Colony that the displaced clans hiding in mountains from the marauding Shaka and later on Dingane‟s troops, returned.

The bottom line, nevertheless, is the fact that conscious urbanization and urban growth were heralded by the arrival of colonial settlers who created towns based on service requirements, difference and differentiation, depending on the situation, whose structure was a reflection of the rationality characterizing planning in the 19th century and the first half of the 20th century. Some urban centres were established as centres of administrative and religious services for the surrounding annexed

settler farming enterprises. As colonisation was also driven by the agenda to provide resources for the bourgeoning manufacturing sector in the Western world, some urban centres were established on the basis of natural resources localization, as in the western world. The colonial era in Africa was more or less similar to the industrial era in Europe where urban primacy was the norm, because urban growth was occurring in few places regarded as urban by virtue of their social, economic and administrative traits. During the early colonial period, there was enough land for everyone, regardless of the mass looting by the settlers and as such poverty and rural to urban migration were kept relatively at bay.

The advent of colonialism influenced population characteristics, although urbanization rates for Africa remained relatively low as birth rates in most instances remained high and death rates declined due to the introduction of modern medicine. This created a population boom amongst Africans. The White population was divided into two groups: one was urbanized and the other was engaged in commercial farming activities. In contrast to the Whites involved in commercial farming activities, the Black population sub-group mostly engaged in subsistence farming in native reserves and wage labour on commercial farms. This was the case especially in South Africa, where both in rural and urban areas the White and Black population was differentiated geographically along racial lines. As population increased during the intermediate and late colonial era, rural to urban migration among Africans in South Africa increased regardless of the restrictive measures imposed by the colonial authorities. This in turn introduced problems in urban primacy in a similar way to the developed world at the turn of the 20th century.

One notes that in the developing world, especially in Africa, the emergence of central places for service purposes or based on difference or differentiation for economic reasons was largely the domain of colonial settlers. During the colonial and apartheid era, as noted in South Africa and KZN province, settlers engineered settlements in a distorted fashion as factors of production were structured for the benefit of the minority White population sub-group through the alienation of Africans from land, urban areas and education, to mention but a few. However, it is important to note that in as much as colonial settlers deliberately distorted settlement patterns at the expense of Africans; mass unemployment in Africa was historically entrenched by factors other than colonial segregationist tendencies. When the manufacturing sector, the cog of modern economies, finally seriously relocated to the developing world at the dawn of the techno-economic era, it was lean and conscious of the competitiveness imperatives of the increasingly globalized world economy. Thus it was not big enough to attract a lot of ancillary service functions needed for the creation of

agglomeration economies which are a pre-requisite for economic progression (this argument is strongly presented by Knox, 1994). From colonial times to the present, African countries have been haunted by mass unemployment, inequality and poverty largely because of the absence of reasonable agglomeration economies and not because of the segregationist practices of colonial settlers, as some would have it. Therefore the synthetic analysis of the literature on settlement deconstructed one of the most not only careless, but tempting and palatable myths churned out by African governments that most settlement challenges are the result of the colonial legacy. The challenge is how to create agglomeration economies in African cities.

With the advent of democracy in most African countries, the discourse of reversing the negative settlement patterns and trends brought by colonial social engineering was brought to the fore. This discourse however, is by and large intertwined with discourses of competitiveness in the era of globalization. In post-colonial Africa and the rest of the developing world problems of poverty have also intensified parallel with urbanization rates. Most of the urbanization in the developing world is regarded as premature, as most people who migrate to cities do not have the skills to take up employment in formal activities and end up engaging in informal activities. Thus settlements in the developing world are characterized by heterogeneity as opulence and poverty is juxtaposed in most metropolitan areas as in the case of Lagos, Johannesburg and Durban. Not surprisingly, the morphology of most cities in the developing world, especially metropolitan areas, is a copy cat of metropolitan areas in the developed countries. The policies adopted by most developing countries, as in the case of South Africa, embrace the notion of heterogeneity. Nevertheless, more often than not, in practice, these policies have not unfolded according to plan. One of the main reasons is the absence of synthetic knowledge of the settlement question which is informed by substantive theory; as such, most settlement development plans are not sustainable.

It should also be noted that in the context of global competitiveness, most of the developing countries are lagging in terms of macro-economic indicators, such as GDP, and are pariah states. This is because the ruling elite has refused to fully participate and integrate their economies into the global economy and have used arbitrary power to distort information flow and to deny people basic liberties. This is evident in countries such as Venezuela, Zimbabwe, Libya (whose long-time leader Muammar Gaddafi, was deposed and killed recently), the Kremlin regime, and Iran. This points to the fact that settlement challenges can be dealt with in an effective manner if the political environment is conducive. Political authorities need to be proactive in their engagement with the larger population‟s aspirations and needs.

It is important to bear in mind the fact that this section of the study, which applied the synthetic theory of analysing precedents on the unfolding of settlement patterns and trends in the developed and developing world, including South Africa and the province of KZN in particular, illuminated the fact that there is not really much difference between the developed and developing worlds. Developed countries experienced enormous settlement challenges depending on the historical epoch, most of which were managed by prudent political will. Britain, the citadel of modern civilisation, went through settlement challenges more or less similar to those facing developing countries in its progression from an early industrial state to its current status as an advanced 21st century post-modern heterogeneous state. As such, there are sufficient grounds for developing countries to learn through cross reference and comparisons, which was one of the sub-objectives of this research. This study also contributed to knowledge by facilitating learning about settlement challenges through cross reference and comparisons using the synthetic theoretical approach. Furthermore, the literature review, which used the synthetic analytical framework, deconstructed and demystified some of the more popular political rhetoric churned out by African politicians which attributes all the settlement challenges to colonisation. A closer and more careful study of literature on precedents from both the developing and the developed world showed that the malady of developing countries, especially Africa, stems from narrow agglomeration economies.

The development of a synthetic theory and its application to the literature on the evolution of settlement patterns and trends in both developed and developing countries, including South Africa, and the province of KZN in particular, facilitated the development of a synthetic methodology to empirically analyze the present state of settlement patterns and trends in any context so as to guide the formulation of sustainable settlement development plans. This was facilitated by the translation of the main underpinning concepts and theories of the synthetic theory of settlements into tools and techniques for measuring settlement function, population and morphology. In a similar way to the dialectical fashion that the synthetic theory of settlements was formulated, through inter and intra juxtaposing of theses and anti-theses within and without the main structuring elements of settlements, the synthetic methodology of settlements was also formulated.

The synthetic methodology of empirically analysing settlement patterns and trends developed in this research study has deductively and logically demonstrated that a holistic analysis of settlements is made up of functional, accessibility, demographic, regional economic and discourse analyses. Demographic analysis includes analysis of the social, economic and physical characteristics of people. Affiliated to this is regional economic analysis, which includes an analysis of the labour

force, unemployment rates, employment, labour participation rates, household income, comparative advantage (location quotient) as well as tress indices (levels of diversification in an economy). Similar to way that the terms population, function and morphology are theses and antitheses from within and without, demographic analysis and regional economic analyses alone fail to measure the availability of services in any given context. This, in turn, calls for a functional analysis to account for the level of services at people‟s disposal and their spatial distribution, which also shows levels of agglomeration and areas with potential for economic growth. However demographic, economic and functional analytic techniques alone do not provide a full empirical picture of settlements; they merely demonstrate the physical, social and economic characteristics of people and their places. These only illustrate access to primary infrastructure, the social characteristics of population, the range of services available and implications for agglomeration economies. Access to secondary infrastructure is not portrayed. Accessibility analysis therefore has to be undertaken to illuminate the level of access to secondary infrastructure such as sports fields, community halls and schools to complement the aforementioned techniques.

Based on the literature, international and local precedents on settlements at national, regional and local municipal levels were ascertained. It was noted from trends in both the developed and developing world, that the underlying causes of settlement morphology in the 21st century is by and large explained by two sister schools of thought, namely, post-modern and post-colonial. It is in this context that one realizes that a synthetic methodology for empirically analysing settlement patterns and trends is not complete without argumentative discourse analysis (ADA) in the context of the multiple stakeholders involved in the governance of contemporary heterogeneous societies. The aim is to ascertain competing narratives as well as hegemonic ones in relation to public and private investment priorities and preferences.

Furthermore, one needs to note that the evolutionary approach to the literature review set the scene for an empirical analysis informed by present and past trajectories. For example, the presentation of the KZN case study based on historical antecedents displayed the various settlement typologies in KZN that reflect the past and the present. EThekwini Metropolitan Municipality was chosen for empirical analysis to demonstrate the practical usage of the methodology for empirically assessing settlement as it is made of a range of settlement typologies which represent most of the typologies in the province of KZN, ranging from traditional authority rural areas to exurban gated communities and those in between, such as informal settlements, peri-urban dense settlements and established and new African townships, to mention but a few.

The synthetic methodology for empirically analysing emerging settlements patterns and trends is made up of the following key techniques: functional, demographic, economic, accessibility and discourse analyses, all of which are dialectically related. It was developed in the Hegelian dialectical fashion in a similar way to how the synthetic theory of settlements was developed and applied to the literature review. Therefore, this research study has made a significant contribution to knowledge in planning by coming up with a synthetic method for the practical analysis of key aspects of settlements, namely, functions, population and morphology at any spatial scale from national, to regional and local council levels, as settlements anywhere on this planet are synonymous with population, function and morphology.

At a pragmatic level, by using the case study of KZN province in general and EThekwini Municipality in particular, this research study demonstrated how both academics and planning practitioners can practically use the synthetic methodology of analysing settlement patterns and trends. The aim is to deductively guide public and private investment at any spatial scale, depending on the context. This is so because throughout this research study, one can observe that anywhere in the world settlements are made up of function, population and morphology. These key structuring elements of settlements were given meaning by the development of a synthetic theory of settlements which has Hegelian underpinnings of dialectics. These were translated into measurables by the development of a synthetic methodology for practically analysing settlement patterns and trends which combines various techniques for demographic, functional and morphology analyses. The unparalleled effectiveness of the synthetic method was demonstrated by its application to the case study of EThekwini Municipality for in-depth analysis, where validated the hypothesis of this research study.

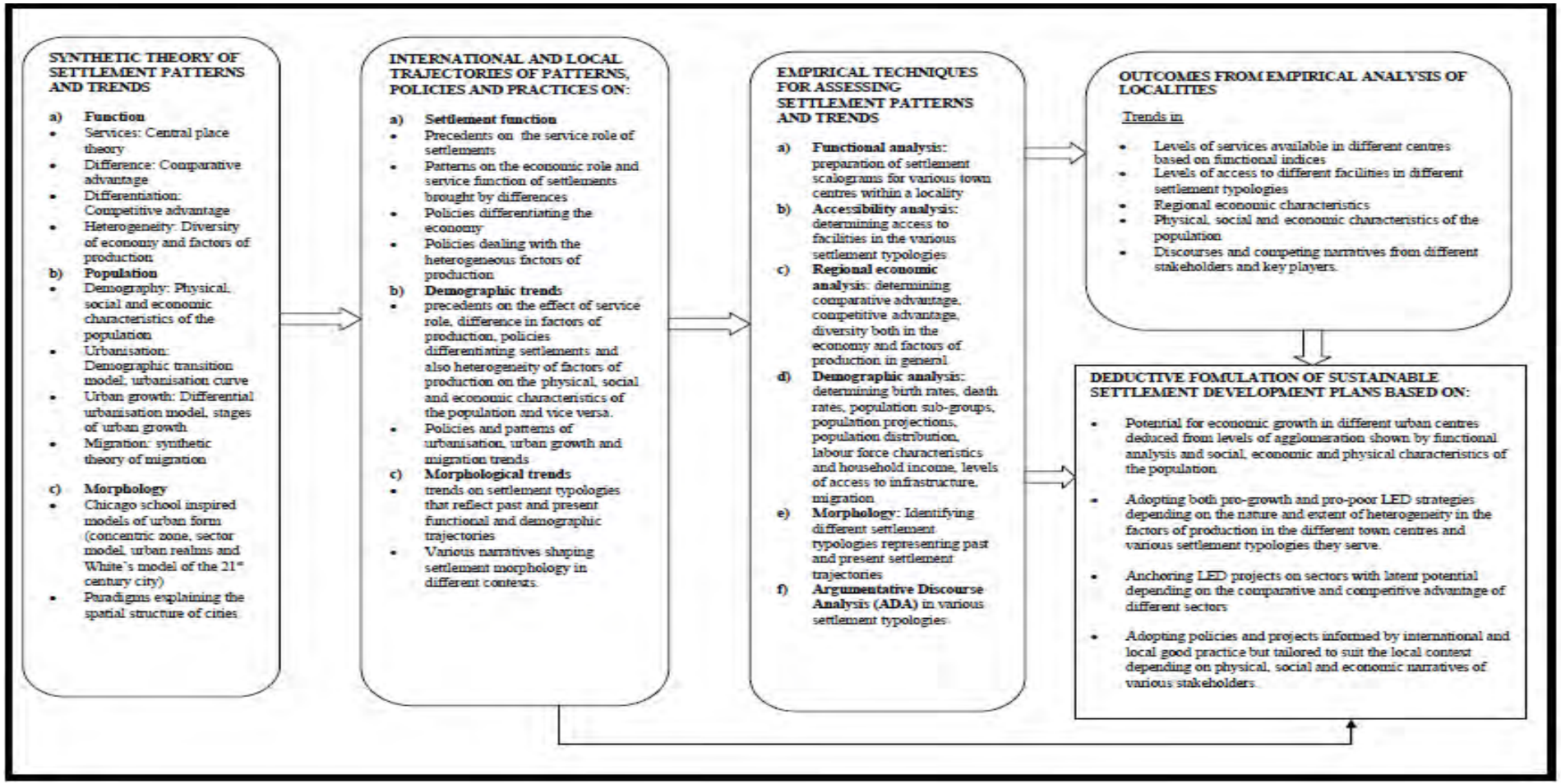
The hypothesis of this research study was that settlement patterns and trends in KwaZulu-Natal are unsustainable and are not very different from previous apartheid social formation trends. This assertion was endorsed because the practical analysis of EThekwini Municipality using the synthetic method led the researcher to deductively conclude that there was a mismatch between where the majority of the people are staying, people‟s needs, areas of economic growth potential, LED strategies and the spatial frameworks of the municipality. Furthermore, when the IDP and SDF of EThekwini Municipality were juxtaposed with the robust practical synthetic analysis, the *ad hoc* and ill-informed concepts and strategies informing settlement development plans in the municipality were exposed. For instance, the concept of urban edge used by the municipality in its bid to promote compact development based on one main centre proved to be very naïve, considering the polycentric

nature of metropolitan space, EThekwini Municipality to be specific. The researcher proposed an alternative synthetic guide for public and private investment for EThekwini Municipality based on the agglomeration potential of different nodes, inter and intra heterogeneity of different settlement typologies and multiple discourses. Thus at a pragmatic level this research study has contributed to knowledge by demonstrating the practical analysis of settlement patterns and trends before deductively producing a guide to sustainable settlement development plans based on the dialectical and synthetic understanding of three components of settlements, namely, population, function and morphology.

10.3 Recommendations

The discourse of sustainable development has long alluded to the integrated nature of settlement development challenges but the question that is still elusive is achieving sustainable development in the face of increasing poverty and inequality, regardless of positive policy intentions. This research study recommends the use of a new synthetic framework to assess settlement patterns and trends to guide sustainable settlement development plans as demonstrated during the course of the study. The proposed new model is deductively developed from the key milestones of this research process and is graphically illustrated in Figure 10.1. From the figure, one notes that the model is made up five sequential main constituent parts which are a synthetic theory, application of the theory to the analysis of policies and practices in settlements in different contexts, empirical synthetic methodology, and application of the methodology to the practical assessment of localities and the deductive formulation of sustainable settlement development plans.

Figure 10. 1: Model for assessing settlement patterns and trends to guide sustainable settlement development plans



From the model it is clear that the basis of formulating sustainable settlement development plans is the theory of settlements. The theory alludes to the dialectical relationship among the key facets of settlements, namely, function, population, and morphology. The function of settlements is centred on their service role as explained by the central places theory. However, this is not enough, as in some instances they play an economic role based on natural resource endowments as explained by difference. Furthermore the role of policy makers in differentiating the economic and service role of settlements can also play a significant role outside explanations provided by the central place theory and difference. Another influence on function is individual agency in the quest to fulfil one‟s own desires and needs as denoted by heterogeneity.

From the model it can be discerned that the service and economic functions of settlements have an impact on population. This is captured by demography (the physical, economic and social characteristics of people). This in turn, raises the notions of urban growth and urbanization as it does not capture varying demographic characteristics due to differences in services and economic functions at people‟s disposal in different localities, and affiliated migration patterns.

The synthetic theory also shows that function and population have an impact on the morphology of settlements, accounted for by urban ecology-inspired models of urban form. These models are in turn complemented by paradigms explaining the underlying philosophy behind the spatial structure of settlements, which include urban managerializm, urban political economy and post-modernism. One notes that any accurate picture and understanding of policies affecting people and their functions is facilitated by the synthetic theory. This is so because the intra and inter complementary roles among function, population and morphology are demonstrated by the dialectical nature of the thesis and anti-thesis of these key facets from within and outside them.

From the model, one notes that the synthetic theory is applied to the interrogation of policies and practices in different contexts on service provision, regional economics, social, economic and physical dynamics of people, urbanization and urban growth and the discourse dynamics of settlement patterns and trends. The goal is to aid localities to learn through knowledge and information on policy performance and the requirements for similar trajectories.

A third key element of the framework is the synthetic methodology for the empirical assessment of settlement patterns and trends which is informed by both the synthetic theory and its application to patterns of regional economics, demographics and regional economic trends and practices. This part of the framework is made up of tools for the practical measurement of theses and antitheses that

make up the synthetic theory. These are functional, accessibility, regional economic, and discourse analyses. The unit of analysis is based on various settlement typology-based patterns of urbanization and urban growth identified from the interrogation of precedents.

The methodology is in turn applied to localities to yield a picture of various settlement typologies in localities in relation to services, accessibility of facilities, regional economic dynamics (comparative and competitive advantage), physical, social and economic population characteristics and multiple and sometimes competing narratives.

The final stage of the framework is the deductive formulation of sustainable settlement development plans that is informed by empirical analysis as well as comparisons and cross reference. Economic investment priorities must be informed by the potential for economic growth in different areas and centres shown by the functional analysis and the social, economic and physical characteristics of the population. Pro-growth and pro-poor LED strategies should also be adopted, depending on the nature and extent of heterogeneity in the factors of production in the different town centres and settlement typologies they serve. Furthermore, LED projects should be anchored on sectors and centres with latent potential, depending on comparative and competitive advantage and agglomeration economies potential, respectively. The process of formulating and implementing sustainable development plans should also be informed by international and local good practice, but tailored to suit the local context depending on the physical, social and economic discourses of various stakeholders.

All the five sequential components of this framework were the key stages and milestones of this research study, whose application outcome has already been demonstrated successfully. The strength of the synthetic model of assessing settlement patterns and trends to guide sustainable settlement development plans is that it can be used at any spatial scale, depending on the delineation of administrative governance boundaries. This is facilitated by the universal appeal of the underlying philosophy of the model; the synthetic theory of settlement patterns and trends. The structuring concepts of the theory, function, population, and morphology are universal settlement variables whose state spatio-temporality is captured by the theses and anti-theses that make up the synthetic theory. What varies, therefore, are the scenarios of the localities where the model can be applied in relation to policy, factors of production, urbanization and urban growth and the discourses of various stakeholders. Likewise, scenarios for the use of the model hinge on geographic scales, depending on the national administrative governance boundaries‟ delineation criteria. It is necessary to present different scenarios where the model can be applied in relation to geographic scale, settlement

typologies and systems, variances in factors of production and the nature of competing narratives from different stakeholders in South Africa.

10.3.1 Scenarios for the use of the synthetic model of settlement patterns and trends in South Africa and the province of KZN

In South Africa, three main scales that can be identified where the model can be used for the formulation of sustainable settlement development plans. These are national, provincial and local. This is in view of quasi-federalist approaches used for the delineation of post-apartheid administrative boundaries, where three spheres of government, national, provincial and local were promulgated, all which are semi-autonomous as they share geographic and political space.

10.3.1.1 Possible scenario for the application of the synthetic model at a national level

The first two parts of the model have already been applied to precedents in the evolution of settlement patterns and trends in South Africa from colonial times up to the present post-apartheid era. What remains is the empirical analysis using the synthetic methodology and the consequent formulation of sustainable settlement development plans.

The application of the theory to patterns on function, population and morphology revealed a number of key trends and patterns. It has been shown that services in the South African settlement system are by and large agglomerated in the core areas where metropolitan areas are administratively situated, namely, Cape Town, Port Elizabeth, Durban and the Pretoria-Witwatersrand complex. Most of these core areas have agglomerated services because of natural advantage, as in the case of Cape Town (port), Durban (port) and Pretoria-Witwatersrand (mining). Agglomeration was perpetuated by colonial and apartheid government policies that promoted the manufacturing sector as well as the competitive agendas of the post-apartheid government. Secondary and intermediate towns and cities were also identified in the South African settlement system due to natural factors of production and apartheid and post-apartheid government decentralization policies. They have intermediate or medium agglomeration of services relative to core areas. It has also been revealed that in core, secondary and intermediate cities the factors of production, especially labour, are polarized, as demonstrated by the existence of dual economies, namely, the formal and informal, both characterized by diversity from within.

The population characteristics of post-apartheid South Africa from the historical analysis from colonial times to the present show a perpetuation of apartheid era patterns and trends. Four population sub-groups can be discerned, namely, White, Coloured, Indian, and African. The African

population sub-group in post-apartheid South Africa is the worst affected by poverty as it is mostly domiciled in rural, peri-urban and informal settlements, established townships and new RDP townships with limited access to social and economic facilities. It was also revealed that the urban system in South Africa has reached the polarization reversal phase. There is significant migration from rural areas and metropolitan areas to small and intermediate sized towns and cities. However, the migrant labour system (circular migration) is still prevalent in post-apartheid South Africa as the poor are still insecure both in rural and urban areas. Asset grabbing on either side is thus still a prominent survival strategy among African labour migrants specifically.

A practical analysis of settlement patterns and trends at the national level using the empirical synthetic methodology would reveal that national settlement development plans are highly unsustainable. Since 2003, national settlement development plans have by and large been guided by the National Spatial Development Perspective (NSDP), whose objective is the optimization of available funding by focusing on economic and infrastructural development in areas considered to be the engine of South African development, while at the same time providing services in areas considered to have little economic development potential (Roux, 2009). One notes that this spatial strategy is based on comparative and competitive advantage as the sole indicators of economic potential and consequently prioritization of major economic investment areas. Thus some areas with potential for economic growth based on agglomeration economies are being skipped by the NSDP as the priority is economic sectors and natural advantage. In this regard, it is highly probable that at the national level some secondary and intermediate size cities which have potential for major economic growth are being sidelined.

Furthermore, an empirical analysis at national level would reveal that LED initiatives, especially pro-poor ones are misplaced as most are tied to infrastructure provision in line with the NSDP, although there are some targeting the informal sector. Tying pro-poor LED initiatives to infrastructure provision has long been shown to be unsustainable, as the jobs created are short-term. Another trend that would definitely be revealed by an empirical analysis using the synthetic methodology at national level is that the majority African population residing in rural, peri-urban, informal and township settlement typologies is living in poverty, manifested by high unemployment rates, backlogs in services and facilities, illiteracy and disease and paltry annual household incomes. This trend is also linked to the narrow focus of the national spatial development plans as well as LED initiatives.

If the empirical analysis reveals this scenario at the national level, coming up with sustainable settlement development plans will require the identification of all areas with economic potential, not only on the basis of comparative and competitive advantage but also with potential for agglomeration. In the identified areas, the focus should be on pro-business and pro-poor LED initiatives that move away from the sole provision of infrastructure to include linked developments and foreign direct investment. This is likely to alleviate poverty in rural and former homeland areas as there is a possibility that intermediate towns serving former homeland areas are being excluded from major economic investment. In those areas that are targeted for major economic investment by the NSDP, it is highly likely that their LED initiatives are not linked properly to the people at large.

10.3.1.2 Possible scenario for the application of the synthetic model at a provincial level

At the provincial level in SA settlement development plans are also unsustainable. This is because national and provincial spatial development plans are supposed to be in line with the constitutional requirement of inter-governmental relations. Although the in-depth empirical analysis of EThekwini Municipality as a typical case study has already proved this, it would nevertheless be instructive to provide a brief snapshot of the likely scenario of settlement development plans at a broad provincial level in South Africa.

In the province of KZN, for example, the Provincial Spatial Economic Development Strategy (PSEDS) of 2007 is drawn in line with the 2003 NSDP. Therefore, it is also highly likely that the prioritization of major economic investment areas is based, by and large, on comparative and competitive advantage. The areas earmarked for such investment are the primary node of EThekwini and secondary nodes of Richards Bay, Pietermaritzburg, Newcastle and Port Shepstone. These areas have traditionally dominated the urban system of KZN due to their natural and competitive advantage. For example, EThekwini Municipality as the primary node grew not only to become the core of KZN, but also of South Africa, as a result of its natural harbour as well as government promotion of the manufacturing sector in the area. Richards Bay and Newcastle grew to secondary status in similar fashion. Pietermaritzburg grew as an administrative capital for the province as a result of the conferring of this status during colonial times.

However, considering that across the province of KZN there are a number of intermediate towns such as Mandeni, Underberg, Estcourt, Pongolo and Melmoth, to name but a few, it is highly likely that some of these centres are suitable destinations for major economic investment if potential for agglomeration economies is assessed using the empirical synthetic methodology. This reinforces the

argument that empirical application of the synthetic model at broad provincial level in SA is likely to reveal that unsustainable settlement development plans are being implemented. Furthermore, in the province of KZN, the nodes that are designated for major economic investment are mostly along the coastal belt, as in the case of EThekwini, Port Shepstone and Richards Bay, according to the PSEDS. The only purely inland node with such status is Newcastle in the north-east part of the province. Thus most of the inland nodes serving the bulk of the population, some which might have potential for growth, are being overlooked by major economic investment prioritization. Empirical application of the model is almost certain to expose LED initiatives that are not linked to the people staying in the various settlement typologies of the province which include informal, peri-urban, rural, new RDP townships, old established and formal established areas. This is because the PSEDS acts in line with the NSPD, which proposes the development of basic infrastructure for areas with little economic potential for growth on the basis of the aforementioned criteria.

A solution to this at a provincial level, if this is indeed the scenario in reality, would be drawing sustainable settlement development plans informed by the synthetic model. However, settlement development plans at a provincial level in SA are supposed to be informed by the national compass and *vice versa*. In reality, although it is enshrined in the national constitution that inter-governmental relations are supposed to be mutual, provincial decisions play second fiddle to national ones as most funding for provinces comes from central treasury. As such, coming up with sustainable settlement development plans at a provincial level calls for transformation of the national government. There is need for central government for adopt the synthetic model, which can then be filtered to provinces in consultation with them. At a national level, in a way similar to provinces, most of the settlement development strategies are drawn up by consultants on behalf of the government. As such, there is also need for prudence and vision on the part of government officials, as to which model is the best.

10.3.1.3 Possible scenario for the application of the model at the district and local municipal level

District municipalities are classified as category C municipalities. They comprise of several local municipalities in their jurisdiction and they share duties and functions with local authorities. They are more or less parallel with metropolitan municipalities as they are designated for areas not eligible for metropolitan municipal status. Local Municipalities are category B and were given effect by the Municipal Demarcation Act of 2000 on the basis of the „wall to wall" notion which embraced a range of settlement typologies, manageability of size and function.

One key scenario that would emerge if the synthetic model is applied at a district municipal level is in line with the trend anticipated at a broad provincial level, as district municipalities are supposed to be complementary with provincial governments in the context of IDP.

At the local municipal level the picture most likely to emerge from the empirical application of the synthetic model, is that in as much as the „wall to wall" notion was adopted in the demarcation of local municipalities, some local municipalities do not have urban centres with meaningful service agglomeration at their disposal or a full range of settlement typologies ranging from rural to high income gated typologies and those in between. The reason for this is that some local municipalities consist of mostly fragmented rural communities and small rural service centres. This is the case with Ndwedwe Local Municipality in the western interior of KZN, which can be classified as largely rural and is characterised by relatively low levels of urbanization, circular migration and rural poverty, manifested in poor access to social and economic facilities.

Solutions to this scenario include drawing up sustainable settlement development plans linked to the broader district municipality, where nodes for major economic investment should be identified based on agglomeration potential and other growth potential indicators. This should run concurrently with pro-poor LED strategies in the hinterland that are tied to agriculture, as most of the rural communities in South Africa"s strength lies in the land.

However, it is important to note that discourse analysis plays an integral role in drawing up sustainable settlement development plans in mostly rural local municipalities. For instance, in KZN rural areas the animosity between traditional authority and technical rationality is well documented. As such, even in instances where the existing settlement development plans in the form of IDPs are progressive from a technical point of view, they have not unfolded according to plan because of a conflict of interest.

10.3.1.4 Scenario in metropolitan areas

The scenario in metropolitan areas of South Africa was tested by the empirical application of the synthetic framework to KZN province, with specific reference to EThekwini Municipality. What came out clearly from the in-depth empirical analysis of EThekwini Municipality is that the municipality"s settlement development plans are unsustainable and settlement patterns and trends are much as they were during the apartheid era. Empirical analysis of EThekwini Metropolitan Municipality revealed that the marginalization of Africans who form the bulk of the metropolitan population and South Africa at large, which began during the colonial and apartheid eras, continues

to date. They mostly reside in rural, peri-urban, informal and township settlement typologies with limited social and economic facilities at their disposal as well as inferior education and skills. The situation is being perpetuated by settlement development plans that are not responsive to the heterogeneity and the polycentric nature of the metropolitan space as illustrated by the empirical study of the municipality. As such, it has been revealed that the settlement development plans in EThekwini Metropolitan Municipality exhibit unsustainable trends. They do not consider major economic investment in all the nodes of the municipality with economic potential in the different functional regions. The pro-poor LED initiatives are narrow, as they are not linked to people in various settlement typologies and are also mostly linked to infrastructure provision and upgrading, which lacks any serious underpinnings for sustainable job creation. Furthermore, empirical analysis of EThekwini Municipality revealed that there is arbitrary use of settlement development concepts such as „œompact city" and „urban edge". The use of these concepts is ridiculous to the extent that new housing developments are still taking place in peripheral locations.

As has been highlighted in Chapter 9, where the empirical synthetic methodology was applied to EThekwini Municipality, the basis of formulating sustainable settlement development plans for metropolitan areas in South Africa is an acknowledgement of their polycentric nature. Focusing major economic investment prioritization on one or two polar nodes in a few functional regions in the name of curbing urban sprawl at the expense of various nodes with potential in other functional regions, as in the case of EThekwini, is sheer institutional neglect of other parts of the metropolitan area. This research study"s empirical analysis of EThekwini Municipality demonstrates that in South African metropolitan areas, there is need to identify major economic investment nodes in each functional region that can be used as the engines of economic growth for the respective regions. Pro-business and pro-poor LED strategies linked to both investment attraction and to the people in the different settlement typologies that constitute the metropolitan space should run concurrently. There should be a match between the investment being promoted in a specific area, the skills of the people and skills development programmes. Currently, as in the case of EThekwini Municipality, the notion of skills upgrading as it appears in the IDP is narrow in the sense that it is not seriously linked to any particular sector or community.

Furthermore, one should note that the use of the synthetic model of settlements requires the cooperation of various stakeholders and experts. There is need to harness experts in demography, functional analysis, macro-economic analysis, discourse analysis and regional planning who can produce guidelines for public and private investments. It should be emphasized that the adoption of

this model requires political will. In the South African context, there is need to realize that planning departments and Municipal Managers who are regarded as technocrats need to be seriously scrutinized, as the research study provided evidence, in the case of EThekwini Municipality, of *ad hoc* and arbitrary settlement development plans produced by the municipality"s technocrats.

10.4 Summary

This chapter provided a synopsis of the extent to which research study"s objectives were met before making recommendations. The main objective of the research study was achieved by fulfilling the sub-objectives as demonstrated by the development of a new synthetic model for assessing settlement patterns and trends to guide sustainable settlement development plans. This chapter has argued that planning practitioners at meso, micro and macro scales need to synthetically take cognisance of people, functions and morphology in a dialectical manner to develop sustainable settlement development plans.

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12. APPENDICES

12.1: APPENDIX 1: GUIDELINE QUESTIONS FOR FOCUS GROUP DISCUSIONS WITH IDP REPRESENTATIVE FORUMS

ACCESS TO FACILITIES

1. **Education: What are your perceptions on the level of access to the following education facilities in your area?**
   a) Primary schools
   b) Secondary schools
   c) Further education and tertiary institutions

2. **Health: What are your perceptions on the level of access to the following health facilities in your area?**
   a) Primary health clinics
   b) Community health centres with ARV Clinic
   c) District hospitals
   d) Regional hospitals
   e) Tertiary/teaching and learning hospitals

3. **Social facilities: What are your perceptions on the level of access to the following social facilities in your area?**
   a) Cemeteries
   b) Informal agriculture
   c) Local markets
   d) Childhood development centres (crèches)
   e) Community Halls
   f) Major public venues
   g) Homes for the aged
   h) Hospices and health centres

4. **Public service facilities: What are your perceptions on the level of access to the following public facilities in your area?**
   a) Civic centres/city halls
   b) Municipal
   c) Sizakala customer care centres
   d) Home Affairs Offices
   e) Post offices
   f) Libraries
   g) Information and Communication Technology access points
   h) Fire stations
   i) Prisons and places of safety
   j) Magistrates courts

SERVICES

1. What are the different market centres in your area?
2. Where are the different services provided by the region‟s market centres?
3. What are your perceptions about the hierarchical networks that prevail among them and the demand of the services in your area?
4. What are your perceptions about the demand and availability of the following services in your area?
   a) Nursery schools
   b) Primary and secondary schools
   c) Tertiary institutions
   d) Food, fuel and groceries
   e) Recreational and food services
   f) Personal services (other than recreational and consumable goods other than fuel)
   g) Health and welfare service
   h) Postal services and government

i) Financial

j) Legal and commercial

k) Industrial and construction services

l) Capital goods and consumer durables

m) Large Composite

DEMOGRAPHIC CHARACTERISTICS OF THE POPULATION

1. What are your perceptions about the following demographic characteristics in your area:

a) Composition of the population in your area in terms of age, sex and race composition

b) Population size from 1996 to present and reasons for the changes fertility, mortality, and out and in-migration rates

c) Household income trends from 1996 to present

d) Household size and structure and growth dynamics from 1996 to present

e) Education status of the population since 1996 in terms of literacy rates

f) Health status trends of the population in relation to life expectancy, infant mortality, and immunisation, and incidence of notifiable diseases since 1996

g) Life expectance, literacy and income levels since 1996

h) Labour and employment trends from 1996 regarding the economically active population, unemployment rate, employment rate, labour participation rate, female labour participation rate, labour dependency ratio, labour youth dependency ratio, and labour absorption capacity

i) Access to water (levels may vary from below basic, basic, intermediate, and full)

j) Access to sanitation (levels may vary from below basic, basic, and intermediate/full)

k) Access telephones (access varies from below basic, basic, and intermediate/full)?

l) Access to electricity (access varies from below basic, basic, and intermediate/full)

m) Dwelling types

ECONOMIC CHARACTERISTICS OF THE POPULATION

a) What are your perceptions about the following economic characteristics of the people in your area?

   a) Sectoral composition of labour force

   b) Labour force participation dynamics

   c) Female labour force participation dynamics

   d) Male labour force participation dynamics

   e) Occupation characteristics of the population

   f) Levels of household income

<u>Government interventions in the economy</u>

1. What have been the main approaches to Local Economic Development (LED) by the municipality in your area since 1996?

2. What are the main Local Economic Development Projects (LED) undertaken by the government in your area from 1996 to present?

3. Who are the main partners in the projects and their different roles?

4. What is the spatial location of your projects and programmes and the target population?

5. What is your opinion in terms of the outcomes of the projects and programmes? This is in terms of reasons for success or failure.

6. What are the short, medium and long term LED plans for your area by the municipality?

DISCOURSES

1. What are the main stakeholders in the planning and development of your area and what are their main roles and interests?

2. What do you think are main developmental challenges facing your area and what should be done about them?

12.2: APPENDIX 2: GUIDELINE QUESTIONS FOR INTERVIEWS WITH WARD COMMITTEES AND KEY INFORMANTS

ACCESS TO FACILITIES

1. **Education**
   a) What is the level of access to primary schools in your area? Do you think the level is adequate? If not why not? If yes why?
   b) What is the level of access to secondary schools in your area? Do you think the level is adequate? If not why? If yes why?
   c) What is the level of access to further education and tertiary institutions? Do you think they are accessible enough? If not why? If yes why?
2. **Health**
   f) What is the level of access to primary health clinics in your area? Do you think there are enough primary health clinics in your area? If not why not? If yes why?
   g) What is the level access to community health centres with ARV Clinic in your area? Do you think the facility is adequate? If no why? If yes why not?
   h) What is the level access to district hospitals from your area? Do think the accessibility is satisfactory? If not why? If yes why?
   i) What is the level of access to regional hospitals from your area? In your opinion is it satisfactory? May please give reasons for your answer.
   j) What is the level of access to tertiary/teaching and learning hospitals in your area? Give reasons for your answer.
3. **Social facilities**
   a) Do you think your area has adequate access to cemeteries? May you please give reasons for your answer?
   b) Does your community require land for informal agriculture? If yes what is the level of access to land for urban informal agriculture?
   c) What is the level of access to local markets in your area? May you please give reasons for your answer?
   d) What are the community needs regarding early childhood development centres (crèches). Do you think the level of accessibility is adequate? Please give reasons for your answer.

e) What is the level of accessibility to Community Halls in your area? Do you think they are adequate? May you please give reasons for your answer?

f) What are your community‟s needs regarding major public venues? Do this their accessibility is adequate? May you please explain your answer?

g) What are you area‟s needs regarding homes for the aged? Do you think they are accessible enough? May you please explain your answer?

h) What are your community needs regarding hospices and health centres? Do you think the level of access is adequate? May you please explain your answer?

4. Public service facilities

a) What are your community needs regarding civic centres/city halls? Do you think the level of accessibility is adequate? May you please give reasons for your answer?

b) What is the level of access to municipal offices in your area? Do you think the level of access is adequate? Please give reasons for your answer.

c) What are your areas‟ needs regarding Sizakala customer care centres? Do you think the level of access is adequate? May you please give reasons for your answer?

d) What is the level of access to Home Affairs Offices in your area? Do you think the level of access is adequate? May you please explain your answer?

e) What is the level of access to post offices in your area? Do you think it is adequate? May you please explain your answer?

f) What is the level of access to libraries in your area? Do you think it is adequate? May you please explain your answer?

g) What is the level of access to Information and Communication Technology access points in your area? Do you think it is adequate? May you please explain your answer?

h) What is the level of access to fire stations in your area? Do you think it is adequate? May you please explain you answer?

i) What is the level of access to fire stations? Do you think it is adequate? May you please give reasons for your answer?

j) What is the level of access to prisons and places of safety in your area? Do you think it is adequate? May you please explain your answer?

k) What is the level of access to magistrate‟s courts in your area? Do you think the level of access is adequate? May you please explain your answer?

SERVICES

1. Where do you obtain the following services from the market centres in your area and those surrounding it

   a) Nursery schools

   b) Primary and secondary schools

   c) Tertiary institutions

   d) Food, fuel and groceries

   e) Recreational and food services

   f) Personal services (other than recreational and consumable goods other than fuel)

   g) Health and welfare service

   h) Postal services and government

   i) Financial

   j) Legal and commercial

   k) Industrial and construction services

   l) Capital goods and consumer durables

   m) Large Composite

DEMOGRAPHIC CHARACTERISTICS OF THE POPULATION

1. What is the main composition of the population in your area in terms of age, sex and race composition?

2. What are the main trends in terms of population size from 1996 to present and reasons for the changes in fertility, mortality, and out and in-migration rates?

3. What are the main household income trends in your area from 1996 to present?

4. What have been the household size and structure and growth dynamics from 1996 to present?

5. What has been the education status of the population since 1996 in terms of literacy rates?
6. What are the main health status trends of the population in relation to life expectancy, infant mortality, and immunisation, and incidence of notifiable diseases since 1996?
7. What are trends of the relation to life expectance, literacy and income levels since 1996?
8. What are the labour and employment trends from 1996 regarding the economically active population, unemployment rate, employment rate, labour participation rate, female labour participation rate, labour dependency ratio, labour youth dependency ratio, and labour absorption capacity?
9. What are the main trends in infrastructure provision specifically levels of access to water (levels may vary from below basic, basic, intermediate, and full)?
10. What are the main trends in infrastructure provision specifically levels of access sanitation (levels may vary from below basic, basic, and intermediate/full)?
11. What are the main trends in infrastructure provision specifically levels of access telephones (access varies from below basic, basic, and intermediate/full)?
12. What are the main trends in infrastructure provision specifically levels of access to electricity (access varies from below basic, basic, and intermediate/full)?
13. What are the most dominant dwelling types in your area?

ECONOMIC CHARACTERISTICS OF THE POPULATION

1. What is the sectoral composition of the labour force in your area?
2. What are the labour force participation dynamics in your area since 1996?
3. What are the female labour force participation dynamics in your area since 1996?
4. What is the male labour force participation dynamics in your area since 1996?
5. What are the occupation characteristics of the population?
6. What are the levels of household income?

Government interventions in the economy

1. What are the main Local Economic Development Projects (LED) undertaken by the government in your area in the area from 1996 to present?
2. Who are the main partners in the projects and their different roles?
3. What is spatial location of your projects and programmes and the target population?
4. What is your opinion in terms of the outcomes of the projects and programmes? This is in terms of reasons for success or failure.
5. What are the short, medium and long term LED plans of the government?

DISCOURSES

1. What are the main stakeholders in the planning and development of your area and what are their interests?

12.3: APPENDIX 3: GUIDELINE QUESTIONS FOR INTERVIEW WITH HEAD OF PLANNING DEPARTMENT ETHEKWINI MUNICIPALITY

ACCESS TO FACILITIES

1. **Education:** What is the level of access to the following education facilities in the different settlement typologies in the Municipality namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements?

   a) Primary schools
   b) Secondary schools
   c) Further education and tertiary institutions

2. **Health:** What is the level of access to the following health facilities in the different settlement typologies in the municipality namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements?
   a) Primary health clinics
   b) Community health centres with ARV Clinic
   c) District hospitals
   d) Regional hospitals
   e) Tertiary/teaching and learning hospitals

3. **Social facilities:** What is the level of access to the following social facilities in the different settlement typologies in the municipality namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements?
   a) Cemeteries
   b) Informal agriculture
   c) Local markets
   d) Childhood development centres (crèches)

e) Community Halls
f) Major public venues
g) Homes for the aged
h) Hospices and health centres

4. **Public service facilities:** What is the level of access to the following public facilities in the different settlement typologies in the municipality namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban and rural settlements?

a) Civic centres/city halls
b) Municipal
c) Sizakala customer care centres
d) Home Affairs Offices
e) Post offices
f) Libraries
g) Information and Communication Technology access points
h) Fire stations
i) Prisons and places of safety
j) Magistrates courts

SERVICES

1. What are the different market centres that make up EThekwini Municipality‟s settlement system in the different regions?

2. What are the different services provided by market centres in the municipality‟s settlement system?

3. What are the hierarchical networks prevailing in the metropolitan municipality‟s settlement system and what are the implications for the demand of different services in the different regions of the municipality?

4. How are the following services distributed in the different market centres in EThekwini Municipality:

   a) Nursery schools

   b) Primary and secondary schools

   c) Tertiary institutions

   d) Food, fuel and groceries

   e) Recreational and food services

   f) Personal services (other than recreational and consumable goods other than fuel)

   g) Health and welfare service

   h) Postal services and government

   i) Financial

   j) Legal and commercial

   k) Industrial and construction services

   l) Capital goods and consumer durables

   m) Large Composite

5. What are the implications of the hierarchy of market centres in the municipality and the range of services they offer on agglomeration economies and potential for growth of the different market centres?

DEMOGRAPHIC CHARACTERISTICS OF THE POPULATION

1. What are the main demographic characteristics of in the different settlement typologies in the municipality namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements in relation to:

   a) Composition of the population in your area in terms of age, sex and race composition

b) Population size from 1996 to present and reasons for the changes fertility, mortality, and out and in-migration rates

c) Household income trends from 1996 to present

d) Household size and structure and growth dynamics from 1996 to present

e) Education status of the population since 1996 in terms of literacy rates

f) Health status trends of the population in relation to life expectancy, infant mortality, and immunisation, and incidence of notifiable diseases since 1996

g) Life expectance, literacy and income levels since 1996

h) Labour and employment trends from 1996 regarding the economically active population, unemployment rate, employment rate, labour participation rate, female labour participation rate, labour dependency ratio, labour youth dependency ratio, and labour absorption capacity

i) Access to water (levels may vary from below basic, basic, intermediate, and full)

j) Access to sanitation (levels may vary from below basic, basic, and intermediate/full)

k) Access telephones (access varies from below basic, basic, and intermediate/full)?

l) Access to electricity (access varies from below basic, basic, and intermediate/full)

m) Dwelling types

ECONOMIC CHARACTERISTICS OF THE POPULATION

1. What are the main trends and dynamics since 1996 in the different regions of the municipality in the different regions of the municipality with specific reference to the following different settlements namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban and rural settlements in relation to the following economic characteristics of the population:

a) Sectoral composition of the labour force

b) Labour force participation dynamics

c) Female labour force participation dynamics

d) Male labour force participation dynamics

e) Unemployment and employment rates

f) Labour absorption capacity

g) Occupation characteristics of the population

h) Levels of household income

Economic structure of EThekwini Municipality

a) What are the natural resources endowments in the different parts of EThekwini Municipality and the associated potentials?

b) What is the economic structure of EThekwini Municipality by employment and GGP?

c) What are the patterns of economic growth and decline in the Municipality?

d) How important is the economy of EThekwini Municipality to the economy of South Africa?

e) What are the sectors of relative specialisation in the municipality?

f) What are the levels of diversification or concentration in the economy of the municipality?

Government interventions in the economy

a) What have been the main approaches to Local Economic Development (LED) by the municipality since 1996?

b) What are the main Local Economic Development Projects (LED) undertaken by the government in your area in the municipality from 1996 to present?

c) Who are the main partners in the projects and their different roles and interests?

d) What is spatial location of your projects and programmes and the target population?

e) What is your opinion in terms of the outcomes of the projects and programmes? This is in terms of reasons for success or failure.

f) What are the short, medium and long term LED plans of the government?

DISCOURSES

1. What have been the main trends in urbanisation and urban growth in the municipality since 1996?

2. What are the municipal policies and approaches to managing urbanisation and urban growth in your region?

3. What is the government policy to managing urbanisation and urban growth in the different settlement typologies in the municipality namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements?

4. What are the main stakeholders in the planning and development of your area and what are their interests and the nature of their relationship with the government?

12.4: APPENDIX 4: GUIDELINE QUESTIONS FOR INTERVIEWS WITH PLANNERS FOR THE DIFFERENT FUNCTIONAL REGIONS OF ETHEKWINI

ACCESSIBILITY TO FACILITIES

1. **Education:** What is the level of access to the following education facilities in the different settlement typologies in your region namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements?

   a) Primary schools
   b) Secondary schools
   c) Further education and tertiary institutions

2. **Health:** What is the level of access to the following health facilities in the different settlement typologies in your region namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements?
   a) Primary health clinics
   b) Community health centres with ARV Clinic
   c) District hospitals
   d) Regional hospitals
   e) Tertiary/teaching and learning hospitals

3. **Social facilities:** What is the level of access to the following social facilities in the different settlement typologies in your region namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements?
   a) Cemeteries
   b) Informal agriculture
   c) Local markets
   d) Childhood development centres (crèches)

e) Community Halls
f) Major public venues
g) Homes for the aged
h) Hospices and health centres

4. **Public service facilities:** What is the level of access to the following public facilities in the different settlement typologies in your region namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban and rural settlements?

a. Civic centres/city halls
b. Municipal
c. Sizakala customer care centres
d. Home Affairs Offices
e. Post offices
f. Libraries
g. Information and Communication Technology access points
h. Fire stations
i. Prisons and places of safety
j. Magistrates courts

SERVICES

1. What are market centres that make up your region‟s settlement system?

2. Where are the different services provided by the region‟s market centres?

3. What are the hierarchical networks that prevail among them and the implications for the demand of the functions in the different areas of the region?

4. What is the distribution of the following services in the market centres in your region and those surrounding it

a) Nursery schools

b) Primary and secondary schools

c) Tertiary institutions

d) Food, fuel and groceries

e) Recreational and food services

f) Personal services (other than recreational and consumable goods other than fuel)

g) Health and welfare service

h) Postal services and government

i) Financial

J) Legal and commercial

K) Industrial and construction services

L) Capital goods and consumer durables

M) Large Composite

DEMOGRAPHIC CHARACTERISTICS OF THE POPULATION

1. What are the main demographic characteristics of in the different settlement typologies in your region namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements in relation to:

    a) Composition of the population in your area in terms of age, sex and race composition

    b) Population size from 1996 to present and reasons for the changes fertility, mortality, and out and in-migration rates

    c) Household income trends from 1996 to present

    d) Household size and structure and growth dynamics from 1996 to present

    e) Education status of the population since 1996 in terms of literacy rates

    f) Health status trends of the population in relation to life expectancy, infant mortality, and immunisation, and incidence of notifiable diseases since 1996

g) Life expectance, literacy and income levels since 1996

h) Labour and employment trends from 1996 regarding the economically active population, unemployment rate, employment rate, labour participation rate, female labour participation rate, labour dependency ratio, labour youth dependency ratio, and labour absorption capacity

i) Access to water (levels may vary from below basic, basic, intermediate, and full)

j) Access to sanitation (levels may vary from below basic, basic, and intermediate/full)

k) Access telephones (access varies from below basic, basic, and intermediate/full)?

l) Access to electricity (access varies from below basic, basic, and intermediate/full)

m) Dwelling types

ECONOMIC CHARACTERISTICS OF THE POPULATION

1. What are the main economic characteristics of the population in the different settlement typologies in your region namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements in relation to:

    a) Sectoral composition of labour force

    b) Labour force participation dynamics

    c) Female labour force participation dynamics

    d) Male labour force participation dynamics

    e) Occupation characteristics of the population

    f) Levels of household income

<u>Government interventions in the economy</u>

1. What have been the main approaches to Local Economic Development (LED) by the in your region since 1996?

2. What are the main Local Economic Development Projects (LED) undertaken by the government in your area in the area from 1996 to present in the different settlement typologies in your region namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements?

3. Who are the main partners in the projects and their different roles in the different settlement typologies in your region namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements?

4. What is spatial location of your projects and programmes and the target population?

5. What is your opinion in terms of the outcomes of the projects and programmes? This is in terms of reasons for success or failure.

6. What are the short, medium and long term LED plans of the governmentin the different settlement typologies in your region namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements?

DISCOURSES

1. What have been the main trends and patterns in urbanisation and urban growth in your region from 1996?

2. What are the main government policies and approach to managing urbanisation and urban growth in your region?

3. What is the government policy to managing urbanisation and urban growth in the different settlement typologies in your region namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban settlements and rural settlements?

4. What are the main stakeholders in the planning and development of your area and what are their interests and the nature of their relationship with the government?

12.5: APPENDIX 5:GUIDELINE QUESTIONS FOR INTERVIEW WITH HEAD OF ETHEKWINI MUNICIPALITY ECONOMIC DEVELOPMENT DEPARTMENT

SERVICES

1. What are the different market centres that make up EThekwini Municipality‟s settlement system in the different regions?
2. What are the different functions provided by market centres in the municipality‟s settlement system?
3. What are the hierarchical networks prevailing in the metropolitan municipality‟s settlement system and what are the implications for the demand of different functions in the different regions of the municipality?
4. How are the following services distributed in the different market centres in EThekwini Municipality:
    a) Nursery schools
    b) Primary and secondary schools
    c) Tertiary institutions
    d) Food, fuel and groceries
    e) Recreational and food services
    f) Personal services (other than recreational and consumable goods other than fuel)
    g) Health and welfare service
    h) Postal services and government
    i) Financial
    j) Legal and commercial
    k) Industrial and construction services
    l) Capital goods and consumer durables

m) Large composite

n) What are the implications of the hierarchy of market centres in the municipality and the range of services they offer on agglomeration economies and potential for growth of the different market centres?

DEMOGRAPHIC CHARACTERISTICS OF THE POPULATION

1. What are the main trends and dynamics since 1996 in the different regions of the municipality in the different regions of the municipality with specific reference to the following different settlements namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban and rural settlements in relation to the following demographic characteristics:

    a) Composition of the population in terms of age, sex and race composition

    b) Population size from 1996 to present and reasons for the changes fertility, mortality, and out and in-migration rates

    c) Household income trends from 1996 to present

    d) Household size and structure and growth dynamics from 1996 to present

    e) Education status of the population since 1996 in terms of literacy rates

    f) Health status trends of the population in relation to life expectancy, infant mortality, and immunisation, and incidence of notifiable diseases since 1996

    g) Life expectance, literacy and income levels since 1996

    h) Labour and employment trends from 1996 regarding the economically active population, unemployment rate, employment rate, labour participation rate, female labour participation rate, labour dependency ratio, labour youth dependency ratio, and labour absorption capacity

    i) Infrastructure provision specifically levels of access to water (levels may vary from below basic, basic, intermediate, and full)

j) Infrastructure provision specifically levels of access sanitation (levels may vary from below basic, basic, and intermediate/full)

k) Infrastructure provision specifically levels of access telephones (access varies from below basic, basic, and intermediate/full)

l) Infrastructure provision specifically levels of access to electricity (access varies from below basic, basic, and intermediate/full)

m) Most dominant dwelling types

ECONOMIC CHARACTERISTICS

1. What are the main trends and dynamics since 1996 in the different regions of the municipality in the different regions of the municipality with specific reference to the following different settlements namely established formal areas, long established townships, new Bond and RDP housing townships, informal settlements, peri-urban and rural settlements in relation to the following economic characteristics of the population:

a) Sectoral composition of the labour force

b) Labour force participation dynamics

c) Female labour force participation dynamics

d) Male labour force participation dynamics

e) Unemployment and employment rates

f) Labour absorption capacity

g) Occupation characteristics of the population

h) Levels of household income

<u>Economic structure of EThekwini Municipality</u>

1. What are the natural resources endowments in the different parts of EThekwini Municipality and the associated potentials?
2. What is the economic structure of EThekwini Municipality by employment and GGP?
3. What are the patterns of economic growth and decline in the Municipality?
4. How important is the economy of EThekwini Municipality to the economy of South Africa?
5. What are the sectors of relative specialisation in the municipality?
6. What are the levels of diversification or concentration in the economy of the municipality?

Government interventions in the economy

1. What are the main Local Economic Development Projects (LED) undertaken by the government in the municipality from 1996 to present?
2. Who are the main partners in the projects and their different roles and interests?
3. What is spatial location of your projects and programmes and the target population?
4. What is your opinion in terms of the outcomes of the projects and programmes? This is in terms of reasons for success or failure.
5. What are the short, medium and long term LED plans of the government?